

WEB-SYNDIC

Web System for Demonstrating the Syntactic Algorithms for Solving Linear Equations in Nonnegative Integers (Nonnegative Linear Diophantine Equations)

TEST EXECUTION DOCUMENT

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1 General Description

This document gives a description of the executed test cases and their results and conclusions. The document mostly consists of test execution reports. The execution is based on the Test Plan. If a test case does not provide concrete values of parameters (ranges only), then they must be specified during (or references to separate files). New tests may appear when necessary.

The document is divided into unit, integration, and validation testing sections. Each group of tests (testing of a unit, a subsystem, composition of subsystems and the web system itself) is located in a separate table. Stubs, input data for test and output for each execution are stored in corresponding directories.

2 Unit Testing

Unit tests specifications are provided in the Unit Testing section of the Test Plan.

Each class, mentioned in the test plan, are independently tested according to its test specification by testing key methods or other principal units of the class.

2.1 JSP Pages

W3C Markup Validation Service is used for checking pages for conformance to the HTML specifications.

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|------------------|---|------------|--------------|--------|
| 17.11.2003 | login.jsp | Page produces correct response (Log In form layout and input fields). | M. Kryshen | hand-written | passed |
| 17.11.2003 | login.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | passed |
| 19.11.2003 | main.jsp | Page produces correct response (see Page Layout) with the requested page included in the content area.. | M. Kryshen | hand-written | passed |
| 19.11.2003 | main.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | passed |
| 19.11.2003 | registration.jsp | Page produces correct response (Registration form layout and input fields). | M. Kryshen | hand-written | passed |

| | | | | | |
|------------|--------------------|---|------------|---------------|--------|
| 19.11.2003 | registration.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | passed |
| 21.11.2003 | userinfo.jsp | Page produces correct response (User Information form layout and input fields). | M. Kryshen | hand-written | passed |
| 21.11.2003 | userinfo.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | passed |
| 21.11.2003 | userinfo.jsp | Page must not be available for anonymous user. | M. Kryshen | hand-written. | passed |
| 21.11.2003 | userinfo.jsp | Registered users (except admin) are not allowed to access other user's profile. | M. Kryshen | hand-written. | passed |
| 22.11.2003 | limits-default.jsp | Page produces correct response (Default Limits form layout and input fields). | M. Kryshen | hand-written | passed |
| 22.11.2003 | limits-default.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | passed |
| 22.11.2003 | limits.jsp | Page produces correct response (Limits form layout and input fields). | M. Kryshen | hand-written | passed |
| 22.11.2003 | limits.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | passed |
| 22.11.2003 | limits.jsp | Registered users (except admin) are not allowed to access other user's limits. | M. Kryshen | hand-written. | passed |

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|------------|----------------|---|------------|--------------|---|
| 26.11.2003 | notes.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | failed: no "maxlength" parameter in the "textarea" tag. |
| 26.11.2003 | notes.jsp | Produced HTML code is valid HTML 4.01 (previous error fixed, retry). | M. Kryshen | automatic | passed. |
| 26.11.2003 | notes.jsp | Page produces correct response (General Notes and Notes on Solution forms layout and input fields). | M. Kryshen | hand-written | passed |
| 27.11.2003 | statistics.jsp | Page produces correct response (Activity Statistics form layout and input fields). | M. Kryshen | hand-written | passed |
| 27.11.2003 | statistics.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | passed |
| 28.11.2003 | process.jsp | Page produces correct response (Process an ANLDE System form layout and input fields). | M. Kryshen | hand-written | passed |
| 28.11.2003 | process.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | passed |
| 29.11.2003 | processset.jsp | Page produces correct response (Process a Set of ANLDE Systems form layout and input fields). | M. Kryshen | hand-written | passed |

| | | | | | |
|------------|--------------------|--|------------|-----------|--------|
| 29.11.2003 | processset.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | passed |
| 01.12.2003 | error-internal.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | passed |
| 01.12.2003 | error-user.jsp | Produced HTML code is valid HTML 4.01. | M. Kryshen | automatic | passed |

2.2 Class ANLDEParser

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|--------------|---|-----------|--------------|---|
| 19.11.2003 | parseANLDE() | Test case 1. Translate a simple (2x4)-test ANLDE system. | A. Salo | hand-written | passed |
| 19.11.2003 | parseANLDE() | Test case 2. Translate a simple (3x6)-test ANLDE system. | A. Salo | hand-written | passed |
| 19.11.2003 | parseANLDE() | Test case 3. Translate a test ANLDE system with one equation. | A. Salo | hand-written | passed |
| 19.11.2003 | parseANLDE() | Test case 4. Translate a test ANLDE system with one equation and empty right-hand side. | A. Salo | hand-written | passed |
| 19.11.2003 | parseANLDE() | Test case 5. Translate a test ANLDE system with double appearance of an unknown in a left-hand side. | A. Salo | hand-written | passed (ANLDEFormatException is thrown) |
| 20.11.2003 | parseANLDE() | Test case 6. Translate a test ANLDE system with double appearance of an unknown in a left-hand side in the same equation. | A. Salo | hand-written | passed (ANLDEFormatException is thrown) |

| | | | | | |
|------------|--------------|--|---------|---|---|
| 20.11.2003 | parseANLDE() | Test case 7. Translate a test ANLDE system with appearance of an unknown in a left-hand side with nonunit coefficient. | A. Salo | hand-written | passed (ANLDEFormatException is thrown) |
| 20.11.2003 | parseANLDE() | Test case 8. Translate a large (equations, unknowns, coefficients) test ANLDE system. | A. Salo | semi-automatic (system template is generated by software) | passed |
| 20.11.2003 | parseANLDE() | Test case 8. Translate a large (equations, unknowns, coefficients) test ANLDE system. | A. Salo | semi-automatic (system template is generated by software) | passed |
| 20.11.2003 | parseANLDE() | Test case 8. Translate a large (equations, unknowns, coefficients) test ANLDE system. | A. Salo | semi-automatic (system template is generated by software) | passed |
| 20.11.2003 | parseANLDE() | Test case 9. Translate a large ANLDE system with double appearance of an unknown in a left-hand side. | A. Salo | semi-automatic (system template is generated by software) | passed (ANLDEFormatException is thrown) |
| 20.11.2003 | parseANLDE() | Test case 9. Translate a large ANLDE system with double appearance of an unknown in a left-hand side in the same equation. | A. Salo | semi-automatic (system template is generated by software) | passed (ANLDEFormatException is thrown) |

| | | | | | |
|------------|--------------|---|---------|---|---|
| 20.11.2003 | parseANLDE() | Test case 9. Translate a large ANLDE system with appearance of an unknown in a left-hand side with nonunit coefficient. | A. Salo | semi-automatic (system template is generated by software) | passed (ANLDEFormatException is thrown) |
| 20.11.2003 | parseANLDE() | Test case 9. Translate a large ANLDE system with equations limit exceeded. | A. Salo | semi-automatic (system template is generated by software) | passed (ANLDEFormatException is thrown) |
| 20.11.2003 | parseANLDE() | Test case 9. Translate a large ANLDE system with unknowns limit exceeded. | A. Salo | semi-automatic (system template is generated by software) | passed (ANLDEFormatException is thrown) |
| 20.11.2003 | parseANLDE() | Test case 9. Translate a large ANLDE system with coefficients limit exceeded. | A. Salo | semi-automatic (system template is generated by software) | passed (ANLDEFormatException is thrown) |
| 20.11.2003 | parseANLDE() | Test case 9. Translate a large ANLDE system with non-zero right-hand part of some equation. | A. Salo | semi-automatic (system template is generated by software) | passed (ANLDEFormatException is thrown) |

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|------------|--------------|--|---------|---|---|
| 22.11.2003 | parseANLDE() | Test case 10. Translate a test ANLDE system which contains comments and blank lines. | A. Salo | hand-written | passed |
| 26.11.2003 | parseANLDE() | Test case 11. Translate a set of 3 simple test ANLDE systems. | A. Salo | hand-written | passed |
| 26.11.2003 | parseANLDE() | Test case 12. Translate a set of one test ANLDE system. | A. Salo | hand-written | passed |
| 26.11.2003 | parseANLDE() | Test case 13. Translate a typical (medium) set of medium test ANLDE systems. | A. Salo | semi-automatic (system set template is generated by software) | passed |
| 27.11.2003 | parseANLDE() | Test case 14. Translate a set of test ANLDE systems which contains non ANLDE system with double appearance of an unknown in a left-hand side. | A. Salo | semi-automatic (system set template is generated by software) | passed (ANLDEFormatException is thrown) |
| 27.11.2003 | parseANLDE() | Test case 14. Translate a set of test ANLDE systems which contains non ANLDE system with double appearance of an unknown in a left-hand side in the same equation. | A. Salo | semi-automatic (system set template is generated by software) | passed (ANLDEFormatException is thrown) |

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|------------|--------------|---|---------|---|---|
| 27.11.2003 | parseANLDE() | Test case 14. Translate a set of test ANLDE systems which contains non ANLDE system with appearance of an unknown in a left-hand side with nonunit coefficient. | A. Salo | semi-automatic (system set template is generated by software) | passed (ANLDEFormatException is thrown) |
| 27.11.2003 | parseANLDE() | Test case 15. Translate a set of test ANLDE systems with systems limit exceeded. | A. Salo | semi-automatic (system set template is generated by software) | passed (ANLDEFormatException is thrown) |
| 27.11.2003 | parseANLDE() | Test case 15. Translate a set of test ANLDE systems which contains ANLDE system with unknowns limit exceeded. | A. Salo | semi-automatic (system set template is generated by software) | passed (ANLDEFormatException is thrown) |
| 27.11.2003 | parseANLDE() | Test case 15. Translate a set of test ANLDE systems which contains ANLDE system with equations limit exceeded. | A. Salo | semi-automatic (system set template is generated by software) | passed (ANLDEFormatException is thrown) |
| 27.11.2003 | parseANLDE() | Test case 15. Translate a set of test ANLDE systems which contains ANLDE system with coefficients limit exceeded. | A. Salo | semi-automatic (system set template is generated by software) | passed (ANLDEFormatException is thrown) |

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|------------|--------------|---|---------|---|---|
| 27.11.2003 | parseANLDE() | Test case 16. Translate large (systems) set of large (equations, unknowns, coefficients) test ANLDE systems. | A. Salo | semi-automatic (system set template is generated by software) | passed |
| 27.11.2003 | parseANLDE() | Test case 17. Translate a large (systems) set of large (equations, unknowns, coefficients) ANLDE systems in the incorrect format. | A. Salo | semi-automatic (system set template is generated by software) | passed (ANLDEFormatException is thrown) |
| 27.11.2003 | parseANLDE() | Test case 18. Translate a test ANLDE system set which contains comments and blank lines. | A. Salo | semi-automatic (system set template is generated by software) | passed |
| 27.11.2003 | parseANLDE() | Test case 19. Translate a test ANLDE system set containing systems without equations. | A. Salo | semi-automatic (system set template is generated by software) | passed (ANLDEFormatException is thrown) |

2.3 Class GaussGenerator

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|------------|---|------------|---------------|--|
| 20.11.2003 | generate() | Test case 1. Generate a simple (3x6)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out1). |
| 21.11.2003 | generate() | Test case 2. Generate a standart (15x20)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out2). |
| 21.11.2003 | generate() | Test case 3. Try to generate a test ANLDE system with incorrect limits (n _i ,m). | K. Kulakov | hand-written. | passed (ANLDE.error() called) (see file out3). |

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|------------|---------------|---|------------|---------------|---|
| 21.11.2003 | generate() | Test case 4. Try to fail a generator. | K. Kulakov | hand-written. | passed (ANLDE.error() called) (see file out4). |
| 21.11.2003 | generateSet() | Test case 1. Generate a simple set of test ANLDE systems. | K. Kulakov | hand-written. | error: generator does not reply. |
| 21.11.2003 | generateSet() | Test case 1. Generate a simple set of test ANLDE systems. | K. Kulakov | hand-written. | passed (see file out1). |
| 21.11.2003 | generateSet() | Test case 2. Generate a set with one ANLDE system. | K. Kulakov | hand-written. | passed (see file out2). |
| 21.11.2003 | generateSet() | Test case 3. Fail in a generator. | K. Kulakov | hand-written. | passed (see file out3). |
| 21.11.2003 | generateSet() | Test case 4. Try to generate a large set. | K. Kulakov | hand-written. | Error: generator does not reply. |
| 21.11.2003 | generateSet() | Test case 4. Try to generate a large set. | K. Kulakov | hand-written. | Passed (exception OutOfMemoryError called) (see file out4). |
| 21.11.2003 | generateSet() | Test case 4. Try to generate a large set with 512Mb java heap size. | K. Kulakov | hand-written. | Passed (see file out5). |
| 22.11.2003 | generateSet() | Additional test case 1. Try to call ANLDE.error() method. | K. Kulakov | hand-written. | Passed (see file out6). |
| 22.11.2003 | generateSet() | Additional test case 2. Try to call ANLDE.generated() method. | K. Kulakov | hand-written. | Passed (see file out7). |
| 22.11.2003 | generate() | Additional test case 1. Try to call ANLDE.error() method. | K. Kulakov | hand-written. | Passed (see file out5). |
| 22.11.2003 | generate() | Additional test case 2. Try to call ANLDE.generated() method. | K. Kulakov | hand-written. | Error: generator does not reply. |

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|------------|------------|---|------------|---------------|-------------------------|
| 22.11.2003 | generate() | Additional test case 2. Try to call ANLDE.generated() method. | K. Kulakov | hand-written. | Passed (see file out6). |
|------------|------------|---|------------|---------------|-------------------------|

2.4 Class GordanoGenerator

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|---------------|--|------------|---------------|--|
| 22.11.2003 | generate() | Test case 1. Generate a simple (3x6)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out1). |
| 22.11.2003 | generate() | Test case 2. Generate a standart (15x20)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out1). |
| 22.11.2003 | generate() | Test case 3. Try to generate a test ANLDE system with incorrect limits (n _i m). | K. Kulakov | hand-written. | passed (ANLDE.error() called) (see file out1). |
| 22.11.2003 | generate() | Test case 4. Try to fail a generator (execution program absent). | K. Kulakov | hand-written. | passed (exception IOException called). |
| 22.11.2003 | generateSet() | Test case 1. Generate a simple set of test ANLDE systems. | K. Kulakov | hand-written. | Passed (see file out1). |
| 22.11.2003 | generateSet() | Test case 2. Generate a set with one ANLDE system. | K. Kulakov | hand-written. | passed (see file out1). |
| 22.11.2003 | generateSet() | Test case 3. Fail in a generator. | K. Kulakov | hand-written. | passed (see file out1). |
| 22.11.2003 | generateSet() | Test case 4. Try to generate a large set. | K. Kulakov | hand-written. | Passed (exception OutOfMemoryError called). |

2.5 Class AnldeSolver

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|---------|--|------------|---------------|---------------------------------------|
| 26.11.2003 | solve() | Test case 1. Solving a simple (2x4)-test ANLDE system. | K. Kulakov | hand-written. | error: program couldn't found solver. |
| 26.11.2003 | solve() | Test case 1. Solving a simple (2x4)-test ANLDE system. | K. Kulakov | hand-written. | error: wrong temp file was founded. |

| | | | | | |
|------------|---------|--|------------|---------------|---|
| 26.11.2003 | solve() | Test case 1. Solving a simple (2x4)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out1). |
| 26.11.2003 | solve() | Test case 2. Solving a medium (5x12)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out2). |
| 26.11.2003 | solve() | Test case 3. Try to solving non-ANLDE system. | K. Kulakov | hand-written. | passed (see file out3). |
| 26.11.2003 | solve() | Test case 3. Try to solving incorrect ANLDE system with null fields. | K. Kulakov | hand-written. | passed (exception NullPointerException was called). |
| 27.11.2003 | solve() | Test case 4. Try to solving hard (100x150)-ANLDE system. | K. Kulakov | hand-written. | passed (see file out1). |
| 27.11.2003 | solve() | Test case 5. Solve a set of simple test ANLDE systems. | K. Kulakov | hand-written. | passed (see file out). |
| 27.11.2003 | solve() | Test case 6. Solve a set with the only test ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 27.11.2003 | solve() | Test case 7. Solve a typical (medium) set with medium test ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 27.11.2003 | solve() | Test case 8. Solve hard ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 27.11.2003 | solve() | Test case 9. Try to process a large set. | K. Kulakov | hand-written. | passed (see file out). |
| 27.11.2003 | solve() | Additional test case 1. Check memory limit. | K. Kulakov | hand-written. | passed (see file out). |

2.6 Class SlopesSolver

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|---------|--|------------|---------------|------------------------|
| 27.11.2003 | solve() | Test case 1. Solving a simple (3x6)-test ANLDE system. | K. Kulakov | hand-written. | error: solver falture. |
| 27.11.2003 | solve() | Test case 1. Solving a simple (3x6)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |

| | | | | | |
|------------|---------|--|------------|---------------|-------------------------|
| 28.11.2003 | solve() | Test case 2. Solve a medium (15x10)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out1). |
| 28.11.2003 | solve() | Test case 2. Solve a medium (5x7)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out2). |
| 28.11.2003 | solve() | Test case 2. Solve a medium (3x7)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out3). |
| 28.11.2003 | solve() | Test case 2. Solve a medium (5x10)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out4). |
| 28.11.2003 | solve() | Test case 2. Solve a medium (5x7)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out5). |
| 28.11.2003 | solve() | Test case 3. Try to solve wrong ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 4. Hard ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 5. Solve a set of simple test ANLDE systems. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 6. Solve a set with the only test ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 7. Solve a typical (medium) set with medium test ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 8. Try to solve a set with wrong ANDLE systems. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 9. Hard ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 10. Try to process a large set. | K. Kulakov | hand-written. | passed (see file out). |

2.7 Class LpSolveSolver

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|---------|--|------------|---------------|------------------------|
| 28.11.2003 | solve() | Test case 1. Solving a simple (2x4)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |

| | | | | | |
|------------|---------|--|------------|---------------|------------------------|
| 28.11.2003 | solve() | Test case 2. Solving a medium (5x12)-test ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 3. Try to solving non-ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 4. Try to solving hard (100x150)-ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 5. Solve a set of simple test ANLDE systems. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 6. Solve a set with the only test ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 28.11.2003 | solve() | Test case 7. Solve a typical (medium) set with medium test ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 29.11.2003 | solve() | Test case 8. Solve hard ANLDE system. | K. Kulakov | hand-written. | passed (see file out). |
| 29.11.2003 | solve() | Test case 9. Try to process a large set. | K. Kulakov | hand-written. | passed (see file out). |

2.8 Class CheckSolutions

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|---------------------|---|------------|---------------|-----------------------------|
| 01.12.2003 | hilbertToHilbert() | Test case 1. Compare equal solutions. | K. Kulakov | hand-written. | passed (see file out). |
| 01.12.2003 | hilbertToHilbert() | Test case 2. Compare not equal solutions. | K. Kulakov | hand-written. | passed (see file out). |
| 01.12.2003 | solutionToHilbert() | Test case 3. Separate solution into Hilbert basis. | K. Kulakov | hand-written. | error: wrong variable used. |
| 01.12.2003 | solutionToHilbert() | Test case 3. Separate solution into Hilbert basis. | K. Kulakov | hand-written. | passed (see file out). |
| 01.12.2003 | solutionToHilbert() | Test case 4. Try to separate wrong solution into Hilbert basis. | K. Kulakov | hand-written. | passed (see file out). |

2.9 Class GeneratorSpooler

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|-----------------------|---|------------|---------------|--|
| 03.12.2003 | getBufferCount() | Test case 2. Empty buffer. | K. Kulakov | hand-written. | error: can't find properties. |
| 03.12.2003 | getBufferCount() | Test case 2. Empty buffer. | K. Kulakov | hand-written. | error: can't find generator class. |
| 03.12.2003 | getBufferCount() | Test case 2. Empty buffer. | K. Kulakov | hand-written. | passed (see file out). |
| 03.12.2003 | getGeneratorList() | Additional test case 1. Get list of generators. | K. Kulakov | hand-written. | passed (see file out). |
| 04.12.2003 | getBufferCount() | Test case 2. Empty buffer. | K. Kulakov | hand-written. | error: wrong method was called. |
| 04.12.2003 | getBufferCount() | Test case 2. Empty buffer. | K. Kulakov | hand-written. | passed (see file out). |
| 04.12.2003 | generateANLDESystem() | Test case 2. Empty buffer. | K. Kulakov | hand-written. | error: executable file have wrong permissions. |
| 04.12.2003 | generateANLDESystem() | Test case 2. Empty buffer. | K. Kulakov | hand-written. | passed (see file out). |
| 04.12.2003 | getBufferCount() | Test case 1. Typical nonempty buffer. | K. Kulakov | hand-written. | passed (see file out). |
| 04.12.2003 | generateANLDESystem() | Test case 1. Empty buffer. | K. Kulakov | hand-written. | passed (see file out). |
| 04.12.2003 | generateANLDESystem() | Test case 3. Buffer is full. | K. Kulakov | hand-written. | passed (see file out). |
| 04.12.2003 | generateANLDESystem() | Test case 1. Typical nonempty buffer. | K. Kulakov | hand-written. | passed (see file out). |

2.10 Class SolverSpooler

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|-----------------|--|------------|---------------|------------------------|
| 05.12.2003 | getSolverList() | Additional test case 1. Get list of solvers. | K. Kulakov | hand-written. | passed (see file out). |

2.11 Class GeneratorOutputParser

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|----------------------------------|--|------------|---------------|--|
| 28.11.2003 | parseANLDE(source limits, anlde) | Test case 1. Parse one small correct ANLDE system from generator output (try 1). | A. Anan'in | hand-written. | error: Generator failed. Wrong parameter calling. |
| 28.11.2003 | parseANLDE(source limits, anlde) | Test case 1. Parse one small correct ANLDE system from generator output (try 2). | A. Anan'in | hand-written. | error: Generator failed. Wrong dimension of left part vector. |
| 28.11.2003 | parseANLDE(source limits, anlde) | Test case 1. Parse one small correct ANLDE system from generator output (try 2). | A. Anan'in | hand-written. | error: Generator failed. Wrong parameter in constructor ANLDESystem. |
| 28.11.2003 | parseANLDE(source limits, anlde) | Test case 1. Parse one small correct ANLDE system from generator output (try 3). | A. Anan'in | hand-written. | passed. |
| 29.11.2003 | parseANLDE(source limits, anlde) | Test case 2. Parse one medium correct ANLDE system from generator output. | A. Anan'in | hand-written. | passed. |
| 29.11.2003 | parseANLDE(source limits, anlde) | Test case 3. Parse one medium correct ANLDE system from generator output. | A. Anan'in | hand-written. | passed. |
| 29.11.2003 | parseANLDE(source limits, anlde) | Test case 4. Try to parse one ANLDE system with incorrect limits (try 1). | A. Anan'in | hand-written. | error: Generator failed. Wrong catching of exception. |
| 29.11.2003 | parseANLDE(source limits, anlde) | Test case 4. Try to parse one ANLDE system with incorrect limits (try 2). | A. Anan'in | hand-written. | passed: Bad limits exception. |
| 29.11.2003 | parseANLDE(source limits, anlde) | Test case 5. Try to parse fail generator output; blank output. | A. Anan'in | hand-written. | passed: Generator failed exception. |
| 29.11.2003 | parseANLDE(source limits, anlde) | Test case 6. Try to parse fail generator output; incorrect output. | A. Anan'in | hand-written. | passed: Generator failed exception. |

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|------------|----------------------------------|--|------------|---------------|-------------------------------------|
| 29.11.2003 | parseANLDE(source limits, anlde) | Test case 7. Try to parse fail generator output; number of solution exceeded user limit. | A. Anan'in | hand-written. | passed: Bad limits exception. |
| 29.11.2003 | parseANLDE(source limits, anlde) | Test case 8. Try to parse fail generator output; lack of memory. | A. Anan'in | hand-written. | passed: Generator failed exception. |
| 01.12.2003 | parseANLDE(source limits, anlde) | Test case 9. Parse one ANLDE system; $n = m = 1$. | A. Anan'in | hand-written. | passed. |
| 01.12.2003 | parseANLDE(source limits, anlde) | Test case 10. Parse one ANLDE system; $n = m$. | A. Anan'in | hand-written. | passed. |
| 01.12.2003 | parseANLDE(source limits, anlde) | Test case 11. Parse one ANLDE system; one equation, solutions limit exceeded. | A. Anan'in | hand-written. | passed: Bad limits exception. |
| 01.12.2003 | parseANLDE(source limits, anlde) | Test case 12. Parse one ANLDE system; more than one equation, solutions limit exceeded. | A. Anan'in | hand-written. | passed: Bad limits exception. |

2.12 Class BaseSolverOutputParser

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|-----------------------------------|--|------------|---------------|---|
| 03.12.2003 | parseOutcome(source limits, size) | Test case 1. Parse one correct solution and metrics from solver output (try 1). | A. Anan'in | hand-written. | error: Wrong format exception. Wrong iteration calling. |
| 03.12.2003 | parseOutcome(source limits, size) | Test case 1. Parse one typical correct solution and metrics from solver output (try 2). | A. Anan'in | hand-written. | passed. |
| 03.12.2003 | parseOutcome(source limits, size) | Test case 2. Parse one standard correct solution and metrics from solver output (try 1). | A. Anan'in | hand-written. | error: Wrong format exception. Wrong size . |

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|------------|-----------------------------------|---|------------|---------------|---------|
| 03.12.2003 | parseOutcome(source limits, size) | Test case 2. Parse one standard correct solution and metrics from solver output (try 2). | A. Anan'in | hand-written. | passed. |
| 03.12.2003 | parseOutcome(source limits, size) | Test case 3. Parse one standard correct solution and metrics from solver output; ANLDE system is $N \times N$; | A. Anan'in | hand-written. | passed. |
| 03.12.2003 | parseOutcome(source limits, size) | Test case 4. Parse solver result with 0 solution. | A. Anan'in | hand-written. | passed. |
| 03.12.2003 | parseOutcome(source limits, size) | Test case 5. Try to parse special solver termination. | A. Anan'in | hand-written. | passed. |

2.13 Class Lp-solveOutputParser

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|---------------------------------|--|------------|---------------|--|
| 04.12.2003 | parseANLDE(source limits, size) | Test case 1. Parse correct typical solution of ANLDE system solver output (try 1). | A. Anan'in | hand-written. | error: Wrong format exception. Wrong iterations. |
| 04.12.2003 | parseANLDE(source limits, size) | Test case 1. Parse correct typical solution of ANLDE system solver output (try 2). | A. Anan'in | hand-written. | passed. |
| 04.12.2003 | parseANLDE(source limits, size) | Test case 3. Parse correct standard solution of ANLDE system solver output. | A. Anan'in | hand-written. | passed. |
| 04.12.2003 | parseANLDE(source limits, size) | Test case 4. Parse solution of ANLDE system solver output with no solutions. | A. Anan'in | hand-written. | passed. |
| 04.12.2003 | parseANLDE(source limits, size) | Test case 4. Try to parse correct standard solution of ANLDE system solver output; wrong limits. | A. Anan'in | hand-written. | passed. |

2.14 Class UserProfileStore

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|---------------------|---|------------|---------------|--------------------------------|
| 15.11.2003 | getUserProfile() | Test case 1. Get user profile: small values for limits. | A. Anan'in | hand-written. | passed. |
| 15.11.2003 | getUserProfile() | Test case 1. Get user profile: medium values for limits. | A. Anan'in | hand-written. | passed. |
| 15.11.2003 | getUserProfile() | Test case 1. Get user profile: big values for limits. | A. Anan'in | hand-written. | passed. |
| 15.11.2003 | getUserProfile() | Test case 2. Get user profile: file does not exist. | A. Anan'in | hand-written. | passed: FileNotFoundException. |
| 15.11.2003 | getUserProfile() | Test case 3. Get user profile: input file has wrong limits values. | A. Anan'in | hand-written. | passed: NumberFormatException. |
| 17.11.2003 | setUserProfile() | Test case 1. Save user profile: small values for limits. | A. Anan'in | hand-written. | passed. |
| 17.11.2003 | setUserProfile() | Test case 1. Save user profile: medium values for limits. | A. Anan'in | hand-written. | passed. |
| 17.11.2003 | setUserProfile() | Test case 1. Save user profile: big values for limits. | A. Anan'in | hand-written. | passed. |
| 17.11.2003 | removeUserProfile() | Test case 1. Remove any user profile data file. | A. Anan'in | hand-written. | passed. |
| 17.11.2003 | removeUserProfile() | Test case 2. Try to remove user profile data file; user do not have access to the user profile data file. | A. Anan'in | hand-written. | passed: IOException. |

2.15 Class DefaultLimitsStore

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|--------------------|---|------------|---------------|---------|
| 17.11.2003 | getDefaultLimits() | Test case 1. Get default limits: small values for limits. | A. Anan'in | hand-written. | passed. |

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|------------|--------------------|--|------------|---------------|---------|
| 17.11.2003 | getDefaultLimits() | Test case 1. Get default limits: medium values for limits. | A. Anan'in | hand-written. | passed. |
| 17.11.2003 | getDefaultLimits() | Test case 1. Get default limits: big values for limits. | A. Anan'in | hand-written. | passed. |
| 27.11.2003 | getDefaultLimits() | Test case 2. Try to get default limits; the default limits file does not exist. | A. Anan'in | hand-written. | passed. |
| 27.11.2003 | getDefaultLimits() | Test case 3. Try to get default limits; the default limits have wrong format. | A. Anan'in | hand-written. | passed. |
| 27.11.2003 | setDefaultLimits() | Test case 1. Save default limits. | A. Anan'in | hand-written. | passed. |
| 27.11.2003 | setDefaultLimits() | Test case 2. Try to save default limits; the default limits file does not have access. | A. Anan'in | hand-written. | passed. |

2.16 Class StatisticsStore

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|-----------------|---|------------|---------------|--------------------------------|
| 19.11.2003 | getStatistics() | Test case 1. Get activity statistics. | A. Anan'in | hand-written. | passed. |
| 20.11.2003 | getStatistics() | Test case 2. Try to get activity statistics; log file does not exist. | A. Anan'in | hand-written. | passed: FileNotFoundException. |
| 20.11.2003 | getStatistics() | Test case 3. Try to get activity statistics; number values have wrong format. | A. Anan'in | hand-written. | passed: NumberFormatException. |
| 21.11.2003 | getStatistics() | Test case 3. Try to get activity statistics; IP address has wrong format. | A. Anan'in | hand-written. | passed: exception |
| 11.12.2003 | getStatistics() | Test case 4. Try to get activity statistics; blank activity statistics file. | A. Anan'in | hand-written. | passed: exception |

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|------------|-----------------|---|------------|---------------|--------------------|
| 11.12.2003 | getStatistics() | Test case 5. Try to get activity statistics; one commentary line. | A. Anan'in | hand-written. | passed: exception |
| 21.11.2003 | setStatistics() | Test case 1. Save activity statistics; activity statistics file does not exist. | A. Anan'in | hand-written. | passed. |
| 21.11.2003 | setStatistics() | Test case 1. Add activity statistics in the file; activity statistics file exist. | A. Anan'in | hand-written. | passed. |
| 21.11.2003 | setStatistics() | Test case 2. Try to add activity statistics; wrong IP address in input data. | A. Anan'in | hand-written. | passed: exception. |

2.17 Class Management

| Date | Module | Test case | Tester(s) | Type | Result |
|------------|------------------------------------|--|------------|---------------|------------------------------------|
| 22.11.2003 | getUserProfile(nickname, password) | Test, case 1. Get user profile with correct password (try 1). | A. Anan'in | hand-written. | error: FileNotFoundException. |
| 22.11.2003 | getUserProfile(nickname, password) | Test, case 1. Repeat previous test(try 2): Get user profile with correct password. | A. Anan'in | hand-written. | passed: wrong constructor calling. |
| 22.11.2003 | getUserProfile(nickname, password) | Test, case 2. Try to get user profile; The password is wrong. | A. Anan'in | hand-written. | passed. |
| 22.11.2003 | getUserProfile(nickname, password) | Test, case 3. Try to get user profile; some of user limits are bigger than default limits. | A. Anan'in | hand-written. | passed. |
| 22.11.2003 | getUserProfile(nickname, password) | Test, case 1. Get standard user profile. | A. Anan'in | hand-written. | passed. |
| 22.11.2003 | getUserProfile(nickname, password) | Test, case 2. Try to get user profile; some of user limits are bigger than default limits. | A. Anan'in | hand-written. | passed. |

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|------------|---|--|------------|---------------|---------|
| 22.11.2003 | setUserProfile(username, password, email) | Test case 1. Save correct user profile. | A. Anan'in | hand-written. | passed. |
| 22.11.2003 | setUserProfile(username, password, email) | Test case 2. Try to save user profile; user limits are bigger than default limits; | A. Anan'in | hand-written. | passed. |
| 26.11.2003 | sendNotes(note, anlde, admemail, userProfile) | Test case 1. Send email message to the system administrator. | A. Anan'in | hand-written. | passed. |

3 Integration Testing

Integration tests specifications are provided by section the Integration Testing of the Test Plan.

3.1 Web server—ANLDE parser

| Date | Feature | Test case | Tester(s) | Type | Result |
|------------|---------------------|--|-----------|----------------|----------------------------------|
| 05.12.2003 | Parse ANLDE system. | Test case 1. Translate a simple (3x6)-test ANLDE system. | A. Salo | hand-written | passed |
| 05.12.2003 | Parse ANLDE system. | Test case 2. Translate a large (equations, unknowns, coefficients) test ANLDE system. | A. Salo | semi-automatic | passed |
| 05.12.2003 | Parse ANLDE system. | Test case 3. Translate a test ANLDE system with double appearance of an unknown in a left-hand side. | A. Salo | hand-written | passed (error message is showed) |
| 06.12.2003 | Parse ANLDE system. | Test case 4. Translate a test ANLDE system which contains comments and blank lines. | A. Salo | hand-written | passed |
| 06.12.2003 | Parse ANLDE system. | Test case 5. Translate a set of 3 simple test ANLDE systems. | A. Salo | hand-written | passed |
| 06.12.2003 | Parse ANLDE system. | Test case 6. Translate a set of one test ANLDE system. | A. Salo | hand-written | passed |

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|------------|---------------------|---|---------|----------------|----------------------------------|
| 06.12.2003 | Parse ANLDE system. | Test case 7. Translate a large (systems) set of large (equations, unknowns, coefficients) test ANLDE systems. | A. Salo | semi-automatic | passed |
| 06.12.2003 | Parse ANLDE system. | Test case 8. Translate a set of test ANLDE systems with systems limit exceeded. | A. Salo | semi-automatic | passed (error message is showed) |
| 06.12.2003 | Parse ANLDE system. | Test case 9. Translate a test ANLDE system set containing systems without equations. | A. Salo | semi-automatic | passed (error message is showed) |
| 06.12.2003 | Parse ANLDE system. | Test case 10. Translate a test ANLDE system set which contains comments and blank lines. | A. Salo | semi-automatic | passed |

3.2 Web server—ActivityStatistics

| Date | Feature | Test case | Tester(s) | Type | Result |
|------------|------------------------|--|-----------|--------------|---|
| 18.12.2003 | Get statistics report. | Test case 1. Process typical log file. | A. Salo | hand-written | passed |
| 18.12.2003 | Get statistics report. | Test case 2. Process log file containing only one record. | A. Salo | hand-written | passed |
| 18.12.2003 | Get statistics report. | Test case 3. Process log file containing records with the same domain. | A. Salo | hand-written | passed |
| 18.12.2003 | Get statistics report. | Test case 4. Process log file which has wrong format. | A. Salo | hand-written | passed (internal error page is displayed) |
| 18.12.2003 | Get statistics report. | Test case 5. Process non-existing log file. | A. Salo | hand-written | passed (internal error page is displayed) |
| 18.12.2003 | Get statistics report. | Test case 6. Process empty log file. | A. Salo | hand-written | passed (internal error page is displayed) |
| 18.12.2003 | Get statistics report. | Test case 7. Process log file containing only one line (treated as comment). | A. Salo | hand-written | passed (internal error page is displayed) |

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|------------|------------------------|---|---------|-----------|---|
| 18.12.2003 | Write statistics data. | Write statistics data to StatisticsStore. | A. Salo | automatic | passed |
| 18.12.2003 | Write statistics data. | Write statistics data to StatisticsStore (after request to servlet (except main.jsp) when session is inactive). | A. Salo | automatic | failed (null was written instead of ip address) |
| 19.12.2003 | Write statistics data. | Write statistics data to StatisticsStore (after request to servlet (except main.jsp) when session is inactive). | A. Salo | automatic | passed |
| 19.12.2003 | Write statistics data. | Write statistics data to StatisticsStore (after session ending by timeout). | A. Salo | automatic | failed (no data written) |
| 19.12.2003 | Write statistics data. | Write statistics data to StatisticsStore (after session ending by timeout). | A. Salo | automatic | passed |

3.3 ActivityStatistics—DataStore

| Date | Feature | Test case | Tester(s) | Type | Result |
|------------|----------------------|--|-----------|--------------|------------------------------|
| 03.12.2003 | Get statistics data. | Test case 1. Process typical log file. | A. Salo | hand-written | passed |
| 03.12.2003 | Get statistics data. | Test case 2. Process log file containing only one record. | A. Salo | hand-written | passed |
| 03.12.2003 | Get statistics data. | Test case 3. Process log file containing records with the same domain. | A. Salo | hand-written | passed |
| 03.12.2003 | Get statistics data. | Test case 4. Process log file which has wrong format. | A. Salo | hand-written | passed (Exception is thrown) |
| 03.12.2003 | Get statistics data. | Test case 5. Process non-existing log file. | A. Salo | hand-written | passed (Exception is thrown) |

3.4 Generator—GeneratorOutputParser

| Date | Feature | Test case | Tester(s) | Type | Result |
|------------|--------------------|--|------------|---------------|---|
| 06.12.2003 | Gauss generator. | Test case 1 Generating an simple ANLDE system. | K. Kulakov | hand-written. | passed |
| 06.12.2003 | Gauss generator. | Test case 2 Generating a set of ANLDE systems. | K. Kulakov | hand-written. | Error: NullPointerException was called. |
| 06.12.2003 | Gauss generator. | Test case 2 Generating a set of ANLDE systems. | K. Kulakov | hand-written. | passed. |
| 06.12.2003 | Gauss generator. | Test case 3 Generating ANLDE system with small limits. | K. Kulakov | hand-written. | passed (IOException was called). |
| 06.12.2003 | Gauss generator. | Test case 4 Generating a set of ANLDE systems with small limits. | K. Kulakov | hand-written. | passed (IOException was called). |
| 06.12.2003 | Gauss generator. | Test case 5 Generating a large ANLDE system. | K. Kulakov | hand-written. | passed. |
| 06.12.2003 | Gauss generator. | Test case 6 Generating a large set of ANLDE systems. | K. Kulakov | hand-written. | passed. |
| 06.12.2003 | Gordano generator. | Test case 1 Generating an simple ANLDE system. | K. Kulakov | hand-written. | passed |
| 06.12.2003 | Gordano generator. | Test case 2 Generating a set of ANLDE systems. | K. Kulakov | hand-written. | passed. |
| 06.12.2003 | Gordano generator. | Test case 3 Generating ANLDE system with small limits. | K. Kulakov | hand-written. | passed (IOException was called). |
| 06.12.2003 | Gordano generator. | Test case 4 Generating a set of ANLDE systems with small limits. | K. Kulakov | hand-written. | passed (IOException was called). |
| 06.12.2003 | Gordano generator. | Test case 5 Generating a large ANLDE system. | K. Kulakov | hand-written. | passed. |
| 06.12.2003 | Gordano generator. | Test case 6 Generating a large set of ANLDE systems. | K. Kulakov | hand-written. | passed. |

3.5 Solver—SolverOutputParser

| Date | Feature | Test case | Tester(s) | Type | Result |
|------------|----------------|--|------------|---------------|---|
| 08.12.2003 | anlde solver. | Test case 1 Solving and parsing standart ANLDE system. | K. Kulakov | hand-written. | passed. |
| 08.12.2003 | anlde solver. | Test case 2 Solving and parsing a set of standart ANLDE systems. | K. Kulakov | hand-written. | passed. |
| 08.12.2003 | anlde solver. | Test case 3 Try to solve and parse large ANLDE system. | K. Kulakov | hand-written. | passed. |
| 08.12.2003 | anlde solver. | Test case 4 Try to solve and parse large set of ANLDE systems. | K. Kulakov | hand-written. | passed. |
| 08.12.2003 | anlde solver. | Test case 5 Try to solve and parse ANLDE system with wrong limits. | K. Kulakov | hand-written. | passed. |
| 08.12.2003 | anlde solver. | Test case 6 Try to solve and parse a set of ANLDE systems with wrong limits. | K. Kulakov | hand-written. | passed. |
| 10.12.2003 | slopes solver. | Test case 1 Solving and parsing standart ANLDE system. | K. Kulakov | hand-written. | passed. |
| 10.12.2003 | slopes solver. | Test case 2 Solving and parsing a set of standart ANLDE systems. | K. Kulakov | hand-written. | passed. |
| 10.12.2003 | slopes solver. | Test case 3 Try to solve and parse large ANLDE system. | K. Kulakov | hand-written. | passed (IOException: "Wrong format." was called). |
| 10.12.2003 | slopes solver. | Test case 4 Try to solve and parse large set of ANLDE systems. | K. Kulakov | hand-written. | passed (IOException: "Wrong format." was called). |

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|------------|-----------------|--|------------|---------------|---|
| 10.12.2003 | slopes solver. | Test case 5 Try to solve and parse ANLDE system with wrong limits. | K. Kulakov | hand-written. | passed (IOException: "Wrong format." was called). |
| 10.12.2003 | slopes solver. | Test case 6 Try to solve and parse a set of ANLDE systems with wrong limits. | K. Kulakov | hand-written. | passed (IOException: "Wrong format." was called). |
| 10.12.2003 | LpSolve solver. | Test case 1 Solving and parsing standart ANLDE system. | K. Kulakov | hand-written. | passed. |
| 10.12.2003 | LpSolve solver. | Test case 2 Solving and parsing a set of standart ANLDE systems. | K. Kulakov | hand-written. | Error: class Solver added unusable information into the solver outcome. |
| 10.12.2003 | LpSolve solver. | Test case 2 Solving and parsing a set of standart ANLDE systems. | K. Kulakov | hand-written. | passed. |
| 10.12.2003 | LpSolve solver. | Test case 3 Try to solve and parse large ANLDE system. | K. Kulakov | hand-written. | passed (Time limit exceeded). |
| 10.12.2003 | LpSolve solver. | Test case 4 Try to solve and parse large set of LpSolve systems. | K. Kulakov | hand-written. | passed. |
| 10.12.2003 | LpSolve solver. | Test case 5 Try to solve and parse LpSolve system with wrong limits. | K. Kulakov | hand-written. | passed (Memory limit exceeded). |
| 10.12.2003 | LpSolve solver. | Test case 6 Try to solve and parse a set of LpSolve systems with wrong limits. | K. Kulakov | hand-written. | passed (Memory limit exceeded). |

3.6 SolverSpooler—Solver—*

| Date | Feature | Test case | Tester(s) | Type | Result |
|------------|-------------|--|------------|---------------|--|
| 11.12.2003 | solveANLDE. | Test case 1 Solving standart ANLDE system using main solver. | K. Kulakov | hand-written. | Error: can't print SolverOutcome object. |
| 11.12.2003 | solveANLDE. | Test case 1 Solving standart ANLDE system using main solver. | K. Kulakov | hand-written. | passed. |

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|------------|-------------|--|------------|---------------|---|
| 13.12.2003 | solveANLDE. | Test case 2 Solving set of standart ANLDE systems using main solver. | K. Kulakov | hand-written. | error: wrong ANLDE system statistics. |
| 13.12.2003 | solveANLDE. | Test case 2 Solving set of standart ANLDE systems using main solver. | K. Kulakov | hand-written. | passed. |
| 13.12.2003 | solveANLDE. | Test case 3 Solving standart ANLDE system using set of solvers. | K. Kulakov | hand-written. | error: can't find order solvers. |
| 13.12.2003 | solveANLDE. | Test case 3 Solving standart ANLDE system using set of solvers. | K. Kulakov | hand-written. | error: can't get information about order solvers. |
| 13.12.2003 | solveANLDE. | Test case 3 Solving standart ANLDE system using set of solvers. | K. Kulakov | hand-written. | passed. |
| 13.12.2003 | solveANLDE. | Test case 4 Solving a set of standart ANLDE systems using set of solvers. | K. Kulakov | hand-written. | passed. |
| 13.12.2003 | solveANLDE. | Additional test case 1 Solving a set of ANLDE systems when same solvers can't solve same task's. | K. Kulakov | hand-written. | passed. |

3.7 Spooler—Solver—SolverOutputParser—TestSolution

| Date | Feature | Test case | Tester(s) | Type | Result |
|------------|--------------------|--|------------|---------------|---------|
| 15.12.2003 | hilbertToHilbert. | Test case 1 Compares equal Hilbert baseses. | K. Kulakov | hand-written. | passed. |
| 15.12.2003 | hilbertToHilbert. | Test case 2 Compares not equal Hilbert baseses. | K. Kulakov | hand-written. | passed. |
| 15.12.2003 | solutionToHilbert. | Test case 1 Decomposition correct solution into Hilbert basis. | K. Kulakov | hand-written. | passed. |

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|------------|--------------------|--|------------|---------------|---------|
| 15.12.2003 | solutionToHilbert. | Test case 2 Decomposition uncorrect solution into Hilbert basis. | K. Kulakov | hand-written. | passed. |
|------------|--------------------|--|------------|---------------|---------|

3.8 Spooler—Generator—*

| Date | Feature | Test case | Tester(s) | Type | Result |
|------------|---|--|-----------|-----------------|--------|
| 11.12.2003 | Gauss generator, generate ANLDE system. | Test case 1 Generating an parsing simple ANLDE system; one task. | A. Ananin | semi-automatic. | passed |
| 11.12.2003 | Gordano generator, generate ANLDE system. | Test case 1 Generating an parsing simple ANLDE system; one task. | A. Ananin | semi-automatic. | passed |
| 11.12.2003 | Gauss generator, generate ANLDE system. | Test case 1 Generating an parsing simple ANLDE system; few tasks. | A. Ananin | semi-automatic. | passed |
| 11.12.2003 | Gordano generator, generate ANLDE system. | Test case 1 Generating an parsing simple ANLDE system; few tasks. | A. Ananin | semi-automatic. | passed |
| 11.12.2003 | Gauss generator, generate ANLDE system. | Test case 1 Generating an parsing simple ANLDE system; big number of tasks. | A. Ananin | semi-automatic. | passed |
| 11.12.2003 | Gordano generator, generate ANLDE system. | Test case 1 Generating an parsing simple ANLDE system; big number of tasks. | A. Ananin | semi-automatic. | passed |
| 13.12.2003 | Gauss generator, generate ANLDE system. | Test case 7 Generating an parsing simple ANLDE system; size of buffer is smaller than number of tasks. | A. Ananin | semi-automatic. | passed |
| 13.12.2003 | Gordano generator, generate ANLDE system. | Test case 7 Generating an parsing simple ANLDE system; size of buffer is smaller than number of tasks. | A. Ananin | semi-automatic. | passed |

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|------------|---|--|-----------|-----------------|--------|
| 13.12.2003 | Gauss generator, generate a set of ANLDE systems. | Test case 1 Generating an parsing simple set of ANLDE systems; one task. | A. Ananin | semi-automatic. | passed |
| 13.12.2003 | Gordano generator, generate a set of ANLDE systems. | Test case 1 Generating an parsing simple set of ANLDE systems; one task. | A. Ananin | semi-automatic. | passed |
| 13.12.2003 | Gauss generator, generate a set of ANLDE systems. | Test case 1 Generating an parsing simple set of ANLDE systems; few tasks. | A. Ananin | semi-automatic. | passed |
| 13.12.2003 | Gordano generator, generate a set of ANLDE systems. | Test case 1 Generating an parsing simple set of ANLDE systems; few tasks. | A. Ananin | semi-automatic. | passed |
| 13.12.2003 | Gauss generator, generate a set of ANLDE systems. | Test case 1 Generating an parsing simple set of ANLDE systems; big number of tasks. | A. Ananin | semi-automatic. | passed |
| 13.12.2003 | Gordano generator, generate a set of ANLDE systems. | Test case 1 Generating an parsing simple set of ANLDE systems; big number of tasks. | A. Ananin | semi-automatic. | passed |
| 13.12.2003 | Gauss generator, generate a set of ANLDE systems. | Test case 1 Generating an parsing simple set of ANLDE systems; size of buffer is smaller than number of tasks. | A. Ananin | semi-automatic. | passed |
| 13.12.2003 | Gordano generator, generate a set of ANLDE systems. | Test case 1 Generating an parsing simple set of ANLDE systems; size of buffer is smaller than number of tasks. | A. Ananin | semi-automatic. | passed |

3.9 Web server—Algorithm server—*

| Date | Feature | Test case | Tester(s) | Type | Result |
|------------|----------------------|---|------------|--------------|--|
| 15.12.2003 | get generators list. | Test case 1. Get generators list from algorithm server. | K. Kulakov | hand-written | Error: can't load generators |
| 15.12.2003 | get generators list. | Test case 1. Get generators list from algorithm server. | K. Kulakov | hand-written | passed |
| 15.12.2003 | get solvers list. | Test case 1. Get solvers list from algorithm server. | K. Kulakov | hand-written | passed |
| 17.12.2003 | generateANLDE. | Test case 1. generate an ANLDE system. | K. Kulakov | hand-written | Error: can't get ANLDE system |
| 17.12.2003 | generateANLDE. | Test case 1. generate an ANLDE system. | K. Kulakov | hand-written | Error: can't execute algorithm |
| 17.12.2003 | generateANLDE. | Test case 1. generate an ANLDE system. | K. Kulakov | hand-written | Error: error in method's name |
| 17.12.2003 | generateANLDE. | Test case 1. generate an ANLDE system. | K. Kulakov | hand-written | Error: passed |
| 17.12.2003 | generateANLDE. | Test case 2. generate a set of ANLDE systems. | K. Kulakov | hand-written | passed |
| 17.12.2003 | generateANLDE. | Test case 1. generate an ANLDE system. | K. Kulakov | hand-written | Error: comment same necessary strings |
| 17.12.2003 | generateANLDE. | Test case 1. generate an ANLDE system. | K. Kulakov | hand-written | passed |
| 18.12.2003 | generateANLDE. | Test case 2. generate a set of ANLDE systems. | K. Kulakov | hand-written | Can't report about generating. |
| 18.12.2003 | generateANLDE. | Test case 2. generate a set of ANLDE systems. | K. Kulakov | hand-written | passed. |
| 18.12.2003 | solve ANLDE. | Test case 1. solve an ANLDE system. | K. Kulakov | hand-written | Error: can't find execution algorithm. |

| | | | | | |
|------------|--------------|--|------------|--------------|--|
| 18.12.2003 | solve ANLDE. | Test case 1. solve an ANLDE system. | K. Kulakov | hand-written | Error: can't execute algorithm. |
| 18.12.2003 | solve ANLDE. | Test case 1. solve an ANLDE system. | K. Kulakov | hand-written | passed. |
| 18.12.2003 | solve ANLDE. | Test case 2. solve a set of ANLDE systems. | K. Kulakov | hand-written | passed. |
| 18.12.2003 | solve ANLDE. | Test case 1. solve an ANLDE system. | K. Kulakov | hand-written | Error: abnormal algorithm termination. |
| 18.12.2003 | solve ANLDE. | Test case 1. solve an ANLDE system. | K. Kulakov | hand-written | passed. |

3.10 Cluster N

| Date | Feature | Test case | Tester(s) | Type | Result |
|------------|--|---|------------|---------------|---------|
| 18.12.2003 | Get user profile (with password checking). | Login. Log a registered user (test) in. | M. Kryshen | hand-written. | passed. |

4 Validation Testing

This section provides detailed report on Validation Tests accomplishment. Validation tests are described in the Validation Testing section of the Test Plan.

Validation testing is the highest-level testing of the product, performing to ensure all features of the web system meet their requirements.

4.1 Session

| Date | Test case | Tester(s) | Type | Result |
|------------|--|------------|---------------|---------|
| 15.12.2003 | Test case 1 Start session. | A. Anan'in | hand-written. | passed. |
| 15.12.2003 | Test case 2 Work during session. | A. Anan'in | hand-written. | passed. |
| 17.12.2003 | Test case 3 Work during session. | A. Anan'in | hand-written. | passed. |
| 17.12.2003 | Test case 4 Session interrupt. | A. Anan'in | hand-written. | passed. |
| 17.12.2003 | Test case 5 Simultaneous browser windows; cookies are enabled. | A. Anan'in | hand-written. | passed. |

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|------------|---|------------|---------------|---------|
| 17.12.2003 | Test case 5 Simultaneous browser windows; cookies are disabled. | A. Anan'in | hand-written. | passed. |
| 17.12.2003 | Test case 7 Same session ID. | A. Anan'in | hand-written. | passed. |

4.2 Process an ANLDE system

| Date | Test case | Tester(s) | Type | Result |
|------------|---|------------|---------------|--|
| 18.12.2003 | Test case 4. Solve ANLDE system. | A. Anan'in | hand-written. | error: incorrect reloading "Content" area. ";" problem in MSIE URL is fixed. |
| 18.12.2003 | Test case 4. Solve ANLDE system; standard ANLDE system. | A. Anan'in | hand-written. | passed. |
| 19.12.2003 | Test case 2. ANLDE inputting; manual inputting. | A. Anan'in | hand-written. | passed. |
| 19.12.2003 | Test case 2. ANLDE inputting; generating: one simple ANLDE system. | A. Anan'in | hand-written. | passed. |
| 19.12.2003 | Test case 2. ANLDE inputting; generating: one big ANLDE system. | A. Anan'in | hand-written. | passed. |
| 19.12.2003 | Test case 2. ANLDE inputting; generating: few big ANLDE systems as different tasks. | A. Anan'in | hand-written. | passed. |
| 19.12.2003 | Test case 1. Process form. | A. Anan'in | hand-written. | passed. |

4.3 Process a set of ANLDE system

| Date | Test case | Tester(s) | Type | Result |
|------------|---|------------|---------------|---------|
| 19.12.2003 | Test case 1. Process form. | A. Anan'in | hand-written. | passed. |
| 19.12.2003 | Test case 2. Inputting ANLDE systems; generation. | A. Anan'in | hand-written. | passed. |

| | | | | |
|------------|--|------------|---------------|------------------------------|
| 19.12.2003 | Test case 2. Inputting ANLDE systems; input from file. | A. Anan'in | hand-written. | error: NullPointerException. |
|------------|--|------------|---------------|------------------------------|

4.4 Log In

| Date | Test case | Tester(s) | Type | Result |
|------------|----------------------|------------|---------------|---------|
| 17.12.2003 | Test case 1 Log In. | A. Anan'in | hand-written. | passed. |
| 17.12.2003 | Test case 2 Log Out. | A. Anan'in | hand-written. | passed. |

4.5 Send a note

| Date | Test case | Tester(s) | Type | Result |
|------------|----------------------------|------------|---------------|---------|
| 17.12.2003 | Test case 1 General notes. | A. Anan'in | hand-written. | passed. |

4.6 Register a user

| Date | Test case | Tester(s) | Type | Result |
|------------|---|------------|---------------|---------|
| 18.12.2003 | Test case 1 Load registration form. | A. Anan'in | hand-written. | passed. |
| 18.12.2003 | Test case 2 Register a user. | A. Anan'in | hand-written. | passed. |
| 18.12.2003 | Test case 2 Try to register a user; obligatory fields are not filled. | A. Anan'in | hand-written. | passed. |

4.7 Manage user limits

| Date | Test case | Tester(s) | Type | Result |
|------------|--|------------|---------------|---------|
| 18.12.2003 | Test case 1 Initialize management of user limits. | A. Anan'in | hand-written. | passed. |
| 18.12.2003 | Test case 2 Change and submit user limits; not registered user. | A. Anan'in | hand-written. | passed. |
| 18.12.2003 | Test case 2 Change and submit user limits; not registered user; input values are bigger than default limits. | A. Anan'in | hand-written. | passed. |
| 18.12.2003 | Test case 2 Change and submit user limits; registered user. | A. Anan'in | hand-written. | passed. |
| 18.12.2003 | Test case 2 Change and submit user limits; registered user; input values are bigger than default limits. | A. Anan'in | hand-written. | passed. |

4.8 Manage users

| Date | Test case | Tester(s) | Type | Result |
|------------|---|------------|---------------|---------|
| 18.12.2003 | Test case 1 Initialize management of users. | A. Anan'in | hand-written. | passed. |
| 18.12.2003 | Test case 2 Load user information form. | A. Anan'in | hand-written. | passed. |
| 18.12.2003 | Test case 3 Change and submit user information. | A. Anan'in | hand-written. | passed. |

4.9 Manage default limits

| Date | Test case | Tester(s) | Type | Result |
|------------|--|------------|---------------|---------|
| 18.12.2003 | Test case 1 Initialize management of default limits. | A. Anan'in | hand-written. | passed. |

| | | | | |
|------------|---|------------|---------------|---------|
| 18.12.2003 | Test case 2 Change and submit user limits; not registered user. | A. Anan'in | hand-written. | passed. |
|------------|---|------------|---------------|---------|

4.10 Get statistics

| Date | Test case | Tester(s) | Type | Result |
|------------|--------------------------------|------------|---------------|---------|
| 18.12.2003 | Test case 1 IP address domain. | A. Anan'in | hand-written. | passed. |
| 18.12.2003 | Test case 2 Nickname domain. | A. Anan'in | hand-written. | passed. |

5 System Testing

This section provides detailed report about alpha-testing and beta-testing executions.

5.1 alpha-testing

Execution period: alpha-testing was started at 16.01.2004 and was finished at 18.01.2004

Members: 3 student groups contain 58 members.

Description: This alpha-testing was executed with the full-scale copy of the Web-SynDic without documentation part. All members divided into 6 groups and each group testing Web-SynDic about 1 hour 30 minutes. Before start testing technical manager introduced members to the Web-SynDic. During the testing period all members could asked the technical manager about Web-SynDic. If the member found something error or if she/hi should tell to project team about her/his proposal, she/he told this to technical manager and send note to administrator about this problem.

Execution results: During the testing period the Web-SynDic server reloaded 5 times. Next the short description of Web-SynDic errors and member's proposals, technical manager comments and information about fixation this problem.

| Problem description | Technical manager comments | Information about fixation |
|---|---|--|
| After input ANLDE system and click solve button the page forward request to the arbitrary page. | This problem situated only one computer and it is possible that it may be infect with computer virus. | Project team try to repeat this situation but was not get this result. |

| | | |
|---|---|---|
| If user sent request for generating system like 5 equations and 10 unknowns the web server fault. | The generator classes did not check that equations must be greater than unknowns. | Fixed. |
| On registration process Web-SynDic did not check correctly e-mail field. | After discussion between team members we decide that e-mail must contain symbol '@', before and after this symbol must be non-empty string. | In progress. |
| If browser did not work with cookie and user open 2 window then "in first window we input ANLDE system with 6 equations. In second window we change user limits: the number of equations from 3 to 6 and commit it. Then we moved into the first window and send request for solving this ANLDE system. The server answer that the number of equations exceeded limit value". | Needed check Web-SynDic work without cookie supports. | In progress. |
| User can send empty note. | The Web-SynDic did not check that note not empty. | Fixed. |
| Web-SynDic can not solve this ANLDE system: $x_1 = 2 \cdot x_1 + x_3$ $x_2 = 2 \cdot x_1 + x_3$ $x_3 = 2 \cdot x_1 + x_3$ $x_4 = 2 \cdot x_1 + x_3$ When request for solving was send the server did not answered. | It is possible that member send request for solving this system when server was fault. | We check this system and server solve it. |

| | | |
|---|--|----------------------|
| If user save the ANLDE system into the file and try to load this file into the server the Web-SynDic give out error message about wrong format of ANLDE system. | When the Web-SynDic saved ANLDE system into the file it added same symbols before the system. | Fixed. |
| If in the browser properties the forwarding was disabled then in solving process the report on solution did not printed. | The process page must contain link for open next page and if browser can not forward request for next page user can open it. | Fixed. |
| If the ANLDE system contain large coefficient like 5000000000000000000000 the server receive Internal Error page. | The parser did not check large coefficients. | Fixed. |
| If user input incorrect ANLDE system and send request for solving ANLDE system, the server receive error message and previous ANLDE system. | It is Web-SynDic feature. | Not needed to fixed. |
| When the user click auto agree button then the Web-SynDic make logout. | The link for auto agree button was wrong. | Fixed. |
| When the user click auto agree button then the Web-SynDic make logout. | The link for auto agree button was wrong. | Fixed. |
| If user want to process with a set of ANLDE systems and load file the check box "Load a set from a text file" did not focused. | After discussion between team members we decide that page "process with a set of ANLDE systems" must be changed. | In progress. |
| In the header of all pages the link "Department of computer science" points to the russian page. | This page is default in this site. | Fixed. |
| If user input coefficient like 0000 the system did not send error message. | This is Web-SynDic feature. | Not needed to fixed. |
| For change user password did not required input old password. | For registered users changing password and removing account must be able after user input old password. | In processing. |

| | | |
|---|--|--------|
| If all limit values is 1 then if user send request for generating and solving a set of ANLDE system the server receive empty error message. | After generating process was ended the Web-SynDic did not check result of generating process. And if generating process was failed then solving process was failing too and server send empty error message. | Fixed. |
| If user input wrong link into the command line like ".../main.jsp?page=" the server receive Internal Error page. | The main page did not check parameters. | Fixed. |