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| Name: POON Ngai Kuen | Course: IT114105 -D | StudentID: 180091780 |
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| **Assigment Report** | | |
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Device: PC

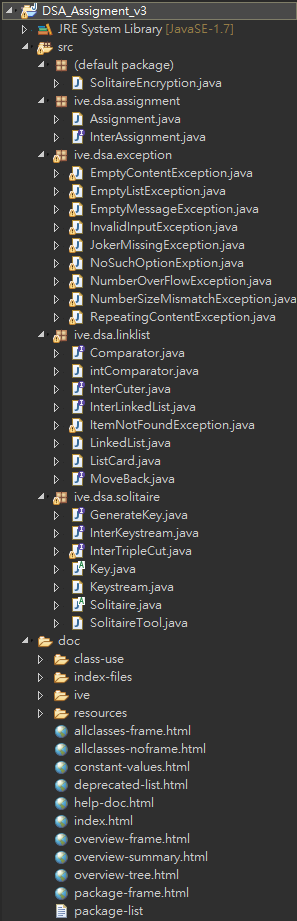
OS: Windows 10 Professional x64 bit

IDE: Eclipse-java-2019-03-R-win32-x86\_64

Java version for IDE: 1.8.0\_201

Java compiler version:1.7.0\_80

## Source files list:



Basic setting in my program:

|  |
| --- |
| // set max value of loading content of the text file. (for keygen and en only)  SolitaireTool.*setCardSize*(28);  // Set joker for triple cut, first argument = jokerA, second = jokerB  SolitaireTool.*setJoker*(27, 28);  // Lone one line in the text file only?  SolitaireTool.*loadOneLineOnly* = true;  // Allow repeating digits.  SolitaireTool.*allowRepeatingDigits* = true;  // Create Object Assignment  Assignment a = new Assignment(args);  a.assigementStart(); |

## My program feature:

1. Filter all space characters in the message and text file.
2. Allow to load more than one line text file (must set SolitaireTool.*loadOneLineOnly* = false;
3. Set repeating digits, that allow users to use repeating digits to encrypt and decrypt.
4. Set specified Jokers, it is the main character in the program.
5. Set max value of loading content of the text file.
6. Display all error with reason, if it is string error, it prompts which characters that incur the error.
7. Less memory is needed: I used some anonymous local classes and inner classes in the program. after they are used, they will be delete from the heap.
8. Specific Functions: using Interface and abstract class to design the program, the use can know all the function in interface or abstract class.

## Assignment Test

Template

|  |  |
| --- | --- |
| Test ID | T00 |
| Command | java SolitaireEncryption keygen deck1.txt “Testing" |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 28 6 2 24 19 15 27 18 26 25 11 12 7 8 3 |
| Scenario |  |
| Result: |  |

## Exception Test

### InvalidInputException

|  |  |
| --- | --- |
| Test ID | ET01 |
| Exception | InvalidInputException |
| Command | java SolitaireEncryption keygen deck1.txt "^ IA%M pAn S E#" |
| Scenario | Message string contains the characters that are not alphabets. |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 7 6 2 24 19 15 18 3 26 25 11 12 28 8 27 |
| Result: |  |

### InvalidInputException

|  |  |
| --- | --- |
| Test ID | ET02 |
| Exception | InvalidInputException |
| Command | java SolitaireEncryption keygen deck1.txt " IAM pAn S E" |
| Scenario | Text file contains the characters that are not digits. |
| Content in  deck1.txt | 21 16 “10” 9 \*5 1 2 14 17 22 23 4 +20 =24 ,7 +6 =13 ,19 15 1SE 3 26 25$^% 11 12 28 8 2#$7 |
| Result: |  |

### NoSuchOptionExceptioni

|  |  |
| --- | --- |
| Test ID | ET03 |
| Exception | NoSuchOptionExceptioni |
| Command | java SolitaireEncryption test deck1.txt " I am p a N " |
| Scenario | No such Option |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 28 6 2 24 19 15 27 18 26 25 11 12 7 8 3 |
| Result: |  |

### RepeationContentException

|  |  |
| --- | --- |
| Test ID | ET04 |
| Exception | RepeationContentException |
| Command | java SolitaireEncryption keygen deck1.txt " I am p a N " |
| Scenario | There are five repeating digits in the deck1.txt and (SolitaireTool.*allowRepeatingDigits* = false;) |
| Content in  deck1.txt | 21 3 10 9 5 1 13 28 17 22 23 4 20 7 6 2 24 19 4 27 22 26 27 11 12 7 8 3 |
| Result: |  |

### RepeationContentException

|  |  |
| --- | --- |
| Test ID | ET05 |
| Exception | RepeationContentException |
| Command | java SolitaireEncryption keygen deck1.txt " Y O HT W J B " |
| Scenario | There are two repeating digits in the deck1.txt |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 28 6 2 24 19 15 27 22 26 25 11 12 7 8 3 |
| Result: |  |

### EmptyMessageException

|  |  |
| --- | --- |
| Test ID | ET06 |
| Exception | EmptyMessageException |
| Command | java SolitaireEncryption |
| Scenario | No input arguments. |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 28 6 2 24 19 15 27 18 26 25 11 12 7 8 3 |
| Result: |  |

### FileNotFoundException (caught)

|  |  |
| --- | --- |
| Test ID | ET07 |
| Exception | FileNotFoundException (caught) |
| Command | java SolitaireEncryption test deck3.txt " I am p a N SE" |
| Scenario | File not found. |
| Result: |  |

### JokerMissingException

|  |  |
| --- | --- |
| Test ID | ET08 |
| Exception | JokerMissingException |
| Command | java SolitaireEncryption keygen deck1.txt " Y O HT W J B " |
| Scenario | Missing a Jokey (28) in deck1.txt and  (SolitaireTool.*allowRepeatingDigits* = true;) |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 27 6 2 24 19 15 3 18 26 25 11 12 7 8 3 |
| Result: |  |

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### NumberOverFlowException

|  |  |
| --- | --- |
| Test ID | ET09 |
| Exception | NumberOverFlowException |
| Command | java SolitaireEncryption keygen deck1.txt " Y O HT W J B " |
| Scenario | The deck1.txt contains a number that are greater than card size |
| Content in  deck1.txt | 29 316 10 9 5 1 13 14 17 22 23 4 20 28 6 2 24 19 15 27 18 26 25 11 12 7 48 4 |
| Result: |  |

### NumberSizeMismatchException

|  |  |
| --- | --- |
| Test ID | ET10 |
| Exception | NumberSizeMismatchException |
| Command | java SolitaireEncryption keygen deck1.txt " Y O HT W J B " |
| Scenario | The deck1.txt contains the number of digits is more or less than card size. (27 digits in this case) |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 28 6 2 24 19 15 27 18 26 25 11 12 7 8 |
| Result: |  |

### NumberSizeMismatchException

|  |  |
| --- | --- |
| Test ID | ET11 |
| Exception | NumberSizeMismatchException |
| Command | java SolitaireEncryption keygen deck1.txt " Y O HT W J B " |
| Scenario | The deck1.txt contains the number of digits is more or less than card size. (30 its in this case) |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 28 6 2 24 19 15 27 18 26 25 11 12 7 8 |
| Result: |  |

### EmptyContentException

|  |  |
| --- | --- |
| Test ID | ET06 |
| Exception | EmptyContentException |
| Command | java SolitaireEncryption keygen empty.txt " Y O HT W J B " |
| Scenario | The content of deck1.txt is empty. |
| Content in  empty.txt |  |
| Result: |  |

## Function Test

### Assignment sample of kengen

|  |  |
| --- | --- |
| Test ID | FT01 |
| Command | java SolitaireEncryption keygen deck1.txt "Testing" |
| Scenario | Sample test from Assignment. |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 28 6 2 24 19 15 27 18 26 25 11 12 7 8 3 |
| Result: |  |

### Assignment sample of en

|  |  |
| --- | --- |
| Test ID | FT02 |
| Command | java SolitaireEncryption en deck1.txt "Do not use pc" |
| Scenario | Sample test from Assignment. |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 28 6 2 24 19 15 27 18 26 25 11 12 7 8 3 |
| Result: |  |

### Assignment sample of de

|  |  |
| --- | --- |
| Test ID | FT03 |
| Command | java SolitaireEncryption de deck1.txt " YOAPLORCYJ " |
| Scenario | Sample test from Assignment. |
| Content in  deck1.txt | 21 26 13 1 18 20 25 24 9 7 |
| Result: |  |

### Repeating Digits of keygen

|  |  |
| --- | --- |
| Test ID | FT04 |
| Command | java SolitaireEncryption keygen deck1.txt " I am p a N " |
| Scenario | There are five repeating digits in the deck1.txt and (SolitaireTool.*allowRepeatingDigits* = true;) |
| Content in  deck1.txt | 21 3 10 9 5 1 13 28 17 22 23 4 20 7 6 2 24 19 4 27 22 26 27 11 12 7 8 3 |
| Result: |  |

### Last two cards are joker of keygen

|  |  |
| --- | --- |
| Test ID | FT05 |
| Command | java SolitaireEncryption keygen deck1.txt " I am p a N SE " |
| Scenario | Last two cards are joker, jokerA and jokerB respectively. |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 3 6 2 24 19 15 8 18 26 25 11 12 7 27 28 |
| Result: |  |

### Last two cards are joker of en

|  |  |
| --- | --- |
| Test ID | FT06 |
| Command | java SolitaireEncryption en deck1.txt " I am p a N SE " |
| Scenario | Last two cards are joker, jokerA and jokerB respectively. |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 3 6 2 24 19 15 8 18 26 25 11 12 7 27 28 |
| Result: |  |

### Last two cards are joker of de

|  |  |
| --- | --- |
| Test ID | FT07 |
| Command | java SolitaireEncryption de deck1.txt "IAMPANSE" |
| Scenario | Last two cards are joker, jokerA and jokerB respectively. |
| Content in  deck1.txt | 18 5 2 4 15 18 24 14 |
| Result: |  |

### Triple cut test (First cut is empty)

|  |  |
| --- | --- |
| Test ID | FT08 |
| Command | java SolitaireEncryption keygen deck1.txt "IAMPANSE" |
| Scenario | Triple cut test. First cart set is empty. |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 7 6 2 24 19 15 18 27 26 25 11 12 8 28 3 |
| Result: |  |

### Triple cut test (Last cut is empty)

|  |  |
| --- | --- |
| Test ID | FT09 |
| Command | java SolitaireEncryption keygen deck1.txt "IAMPANSE" |
| Scenario | Triple cut test. Last cart set is empty. |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 7 6 2 24 19 15 18 27 26 25 11 12 28 8 3 |
| Result: |  |

### Triple cut test (First and last cut are empty)

|  |  |
| --- | --- |
| Test ID | FT10 |
| Command | java SolitaireEncryption keygen deck1.txt "IAMPANSE" |
| Scenario | Triple cut test. First and last cart sets are empty. |
| Content in  deck1.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 7 6 2 24 19 15 18 3 26 25 11 12 28 8 27 |
| Result: |  |

### Load more than one line text file of en

|  |  |
| --- | --- |
| Test ID | FT11 |
| Command | java SolitaireEncryption en deck1.txt "IAM pAn S E" |
| Scenario | Loading more than one line text file and  SolitaireTool.*loadOneLineOnly* = false; |
| Content in  moreLine.txt | 1  2  3  4  5  27  6  7  8  9  28  10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 |
| Result: |  |

### Load more than one line text file of en

|  |  |
| --- | --- |
| Test ID | FT12 |
| Command | java SolitaireEncryption en deck1.txt "LXAFVPNB" |
| Scenario | Conpare the previous by using one line text flie |
| Content in  moreLine2.txt | 1 2 3 4 5 27 6 7 8 9 28 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 |
| Result: |  |

### Do de first and than de

|  |  |
| --- | --- |
| Test ID | FT12 |
| Command | java SolitaireEncryption de moreLine2.txt "IAM pan S E " |
| Scenario | Conpare the previous by using one line text flie |
| Content in  moreLine2.txt | 1 2 3 4 5 27 6 7 8 9 28 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 |
| Result: |  |

|  |  |
| --- | --- |
| Test ID | FT13 |
| Command | java SolitaireEncryption en moreLine2.txt "FDYZFLXH" |
| Scenario | Conpare the previous by using one line text flie |
| Content in  moreLine2.txt | 1 2 3 4 5 27 6 7 8 9 28 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 |
| Result: |  |

### Generate 10000 key stream

|  |  |
| --- | --- |
| Test ID | FT15 |
| Command | java SolitaireEncryption keygen moreLine2.txt "FDYZFLXH" |
| Scenario | Generate 10000 key stream |
| Content in  moreLine2.txt | 21 16 10 9 5 1 13 14 17 22 23 4 20 7 6 2 24 19 15 18 3 26 25 11 12 28 8 27 |
| Result: |  |