Black Box testing for test case and alternative flows.

Test cases

### Case Add

**Book:**

Normal flow:

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 | Choose add book | System shows a list with all the books. System asks for the title, publisher, author, isbn, year of publication, edition and genre/s (see optional case add genre) | Expected – Test passed |
| 2 | Introduce the following data:  Title: Daugther of Smoke and Bone  Publisher: Hodder & Stoughton  Author: Laini Taylor  ISBN: 978-0-316-13402-6  Year of publication: 2011  Edition: 1  Genres: fantasy, romance, young adult fiction. | System is not reacting for this action | Expected – Test passed |
| 3 | Choose to add the book | System adds the book with the following information:  Title: Daugther of Smoke and Bone  Publisher: Hodder & Stoughton  Author: Laini Taylor  ISBN: 978-0-316-13402-6  Year of publication: 2011  Edition: 1  Genres: fantasy, romance, young adult fiction.  The book is shown on the list and the values of the filled fields are reset. | Expected – Test passed |

Optional Case Add Genre:

Normal flow:

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 2.1 | Select and add drama from list of genres | List of added genres is updated with drama | Expected – Test passed |

Alternative flow: Genre selected is already on the list of added genres

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 2.1 | Select and add drama from list of genres | Display an error indicating the genre is already added. | Expected – Test passed |

Go to step 2.1 normal flow.

Optional Case Remove Genre:

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 2.1 | Select and remove drama form list of added genre | List of added genre is updated without drama | Expected – Test passed |

Alternative flow book: Librarian inputs incorrect type of data

1. Null value

Step 1-3 in normal flow except title/ isbn/ publisher is empty

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add the book | System displays an error indicating that it can’t be empty and resets the values of the filled fields | Expected – Test passed |

Go to step 2 normal flow

1. Future year of publication

Step 1-3 in normal flow except year of publication is 2023

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choosee to add the book | System displays an error indicating that the year of publication can’t be a future date and resets the values of the filled fields | Expected – Test passed |

Go to step 2 normal flow

1. Duplicate isbn

Step 1-3 in normal flow except isbn is already in the system

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add the book | System displays an error indicating that the isbn must be unique and resets the values of the filled fields | Expected – Test passed |

Go to step 2 normal flow

1. Edition is not an integer

Step 1-3 in normal flow except edition is not a natural number

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add the book | System displays an error indicating that the edition must be an integer and resets the values of the filled fields. | Expected – Test passed |

Go to step 2 normal flow

1. Duplicate genre

Step 1-3 in normal flow except the same genre is chosen twice

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add the book | System displays an error indicating that the same book cannot have the same genre twice and resets the values of the filled fields. | Expected – Test passed |

**Magazine:**

Normal flow:

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 | Choose add magazine | System shows a list with all the magazines. System asks for the title, publisher, volume, date (day, month and year) and genre | Expected – Test passed |
| 2 | Introduce the following data:  Title: Den danske spectator  Publisher: Jorgen Riis  Volume: 5  Day: 12  Month: 3  Year: 2005  Genre: literary review | System is not reacting for this action | Expected – Test passed |
| 3 | Choose to add the magazine | System adds the magazine with the following information: Title: Den danske spectator  Publisher: Jorgen Riis  Volume: 5  Date: 12/03/2005  Genre: literary review  The magazine is shown on the list and the values of the filled fields are reset. | Expected – Test passed |

Alternative flow magazine: Librarian inputs incorrect type of data

1. Null value

Step 1-3 in normal flow except title/ publisher/day/month/year is empty

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add the magazine | System displays an error indicating that it can’t be empty and resets the values of the filled fields | Expected – Test passed |

Go to step 2 normal flow

1. Invalid date

Step 1-3 in normal flow except the date is invalid. Ex. 31/02/2003, -4/07/2021, 05/16/2013

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add the magazine | System displays an error indicating that the librarian has chosen an invalid date and resets the values of the filled fields | Expected – Test passed |

Go to step 2 normal flow

1. Future date

Step 1-3 in normal flow except the date is future. Ex. 21/02/2033, 04/12/2022, 05/16/2051

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add the magazine | System displays an error indicating that the librarian has chosen a future date and resets the values of the filled fields | Expected – Test passed |

Go to step 2 normal flow

d) Volume is not an integer

Step 1-3 in normal flow except the same genre is chosen twice

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add the magazine | System displays an error indicating that the volume must be an integer and resets the values of the filled fields. | Expected – Test passed |

Go to step 2 normal flow

Case remove:

**Book:**

Normal Flow (without filtering):

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 | Choose remove book | Displays a list of the books that are in the system | Expected – Test passed |
| 2 | Choose the 3rd book in the list | Highlighted 3rd book in the list | Expected – Test passed |
| 3 | Choose to delete | Deletes the book and shows the list with the remaining books | Expected – Test passed |

Alternative flow remove book: book is not available because someone has already borrowed it.

Step 1-2 in normal

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to delete | System displays an error indicating that the book cannot be deleted because is not available in the system. | Expected – Test passed |

Normal Flow(with filtering)

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 | Choose remove book | Displays a list of the books that are in the system | Test did not pass -  Use case covering this requirement has not been implemented |
| 2 | Include filters and search:  Year of publication: 2021  Genre: Fantasy | Displays a list of the fantasy books published in 2021 that are in the system | Test did not pass -  Use case covering this requirement has not been implemented |
| 3 | Change filters and search:  Author: Rick Riordan | Displays a list of the fantasy books written by Rick Riordan that are in the system | Test did not pass -  Use case covering this requirement has not been implemented |
| 2 | Choose the 3rd book in the list | Highlights 3rd book in the list | Test did not pass -  Use case covering this requirement has not been implemented |
| 3 | Choose to delete | Deletes the book and shows the list with the remaining books | Test did not pass -  Use case covering this requirement has not been implemented |

**Magazine:**

Normal Flow (without filtering):

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 | Choose remove magazine | Displays a list of the magazines that are in the system | Expected – Test passed |
| 2 | Choose the 3rd magazine in the list | Highlighted 3rd magazine in the list | Expected – Test passed |
| 3 | Choose to delete | Deletes the magazine and shows the list with the remaining magazines | Expected – Test passed |

Alternative flow remove magazine: magazine is not available because someone has already borrowed it.

Step 1-2 in normal

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to delete | System displays an error indicating that the magazine cannot be deleted because is not available in the system. | Expected – Test passed |

Normal Flow(with filtering):

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 | Choose remove magazine | Displays a list of the magazines that are in the system | Test did not pass -  Use case covering this requirement has not been implemented |
| 2 | Include filters and search:  Year: 2021  Month: July  Genre: sports | Displays a list of the sports magazines published in July 2021 that are in the system | Test did not pass -  Use case covering this requirement has not been implemented |
| 3 | Change filters and search:  Month: July to May | Displays a list of the sports magazines published in May 2021 that are in the system | Test did not pass -  Use case covering this requirement has not been implemented |
| 2 | Choose the 3rd  magazine in the list | Highlights 3rd magazine in the list | Test did not pass -  Use case covering this requirement has not been implemented |
| 3 | Choose to delete | Deletes the magazine and shows the list with the remaining magazines | Test did not pass -  Use case covering this requirement has not been implemented |

**Test Case add Librarian**

Case Add

Normal flow:

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 |  | System asks for the ssn, first name, last name, password. | Expected – Test passed |
| 2 | Introduce the following data:  Ssn:1234567890111  First name: Boris  Last name: Johnson  Password: password |  | Expected – Test passed |
| 3 | Choose to add | System adds the librarian with the following information:  Ssn: 1234567890111  Last name: Johnson  Password: password  The librarian is shown on the list and the values of the filled fields are reset. | Expected – Test passed |

Alternative flow. Manager inputs incorrect type of data

1. Null values

Step 1-3 in normal flow except ssn/password/first name/last name is null

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add | System displays an error indicating that it can’t be null | Expected – Test passed |

Go to normal flow step 2

1. Incorrect input of data

step1-3 in normal flow except ssn contains letters or symbols or it is not 13 digits (234ab@\*+123)

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add | System displays an error indicating that the ssn is not valid | Expected – Test passed |

Go to normal flow step 2

step 1-3 in normal flow except password is longer than 20 characters (thisPasswordIsTooLongToBeMemorized)

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add | System displays an error indicating that the password needs to be shorter than 20 characters. | Expected – Test passed |

Go to normal flow step 2

1. Duplicate ssn

step1-3 in normal flow except ssn is already registered in the system.

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add | System displays an error indicating that said librarian is already register. | Expected – Test passed |

Go to normal flow step 2

**Case Remove**

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 |  | Displays a list of Librarians that are in the system | Expected – Test passed |
| 2 | Choose the 1st librarian in the list | Highlighted 1st librarian in the list | Expected – Test passed |
| 3 | Choose to remove | Deletes the librarian and shows the updated list | Expected – Test passed |

Alternative Flow No librarian chosen from the list

Normal flow step 1-2 except no librarian has been chosen from the list

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to remove | System displays an error indicating that no element has been chosen from the list. | Expected – Test passed |

**Test Case add Library User**

Case Add

Normal flow:

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 | Choose add Library user | System asks for the ssn, first name, last name, password. | Expected – Test passed |
| 2 | Introduce the following data:  Ssn:1234567890123  First name: Boris  Last name: Johnson  Password: password |  | Expected – Test passed |
| 3 | Choose to add | System adds the librarian with the following information:  Ssn: 1234567890123  Last name: Johnson  Password: password  The librarian is shown on the list and the values of the filled fields are reset. | Expected – Test passed |

Alternative flow. Manager Inputs incorrect type of data

1. Null values

step 1-3 in normal flow except ssn/password/ first name/ last name is null

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add | System displays an error indicating that it can’t be null | Expected – Test passed |

Go to normal flow step 2

1. Incorrect input of data

step1-3 in normal flow except ssn contains letters or symbols or it is not 13 digits (234ab@\*+123)

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add | System displays an error indicating that the ssn is not valid | Expected – Test passed |

Go to normal flow step 2

step 1-3 in normal flow except password is longer than 20 characters (thisPasswordIsTooLongToBeMemorized)

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add | System displays an error indicating that the password needs to be shorter than 20 characters. | Expected – Test passed |

Go to normal flow step 2

1. Duplicate ssn

step1-3 in normal flow except ssn is already registered in the system.

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 3a | Choose to add | System displays an error indicating that said library user is already register. | Expected – Test passed |

Go to normal flow step 2

**Case Remove**

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 |  | Displays a list of library users that are in the system | Expected – Test passed |
| 2 | Choose the 1st library users in the list | Highlighted 1st librarian in the list | Expected – Test passed |
| 3 | Choose remove | Deletes the library user and shows the updated list | Expected – Test passed |

**Test Case lend multimedia item**

Normal flow:

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 | Select lend multimedia item | Ask for ssn of a user | Expected – Test passed |
| 2 | Write the following ssn and confirm:  1237893567892 | Show first and last name of the library user | Expected – Test passed |
| 3 | Choose Magazine | Display a list of available magazines | Expected – Test passed |
| 4 | Select the item requested by the library user (3rd magazine from the list) | The 3rd magazine from the list is highlighted | Expected – Test passed |
| 5 | Select to create the loan | Register the item as being borrowed by the library user with ssn 1237893567892 along with the transaction date and update the list of available magazines. | Expected – Test passed |

Alternative flow. Librarian puts a ssn that does not correspond to any registered library user.

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 2a | Write the following ssn and confirm:  12378935678 | Display an error indicating that the ssn does not correspond to any registered library user. | Expected – Test passed |

Go to normal flow step 2

**Test Case return multimedia item**

Normal flow:

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 |  | Ask for ssn and password. | Expected – Test passed |
| 2 | Write the following ssn :  1237893567892  Write the following password:  Lola3124. | Shows that the user has been properly been logged in | Expected – Test passed |
| 3 | Choose magazine | Display a list of magazines that the user has currently borrowed | Expected – Test passed |
| 4 | Select the item requested by the library user (2nd magazine from the list) | The 2nd magazine from the list is highlighted | Expected – Test passed |
| 5 | Select to return the magazine | Register the magazine as being available and update the list of borrowed magazines. | Expected – Test passed |

Alternative flow. Libarian puts a ssn that does not correspond to any registered library user.

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 2a | Write the following ssn and confirm:  12378935678 | Display an error indicating that the ssn does not correspond to any registered library user. | Expected – Test passed |

Go to normal flow step 2

**Test case Scenario Log in:**

Normal flow:

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 1 |  | Ask for ssn and password. | Test did not pass -  Use case covering this requirement has not been implemented |
| 2 | Write the following ssn :  1237893567892  Write the following password:  Lola3124. | Shows which actor has successfully been logged in as a librarian. | Test did not pass -  Use case covering this requirement has not been implemented |

Alternative flow. The ssn and the password does not correspond to any Librarian or the Manager.

|  |  |  |  |
| --- | --- | --- | --- |
| Action no. | Action | Reaction | Result |
| 2a | Write the following ssn :  12378935678  Write the following password: | Displays an error indication that the ssn and the password does not correspond to any Librarian or the Manager. | Test did not pass -  Use case covering this requirement has not been implemented |

Go to normal flow step 1.