Integration Testing:

1. Introduction:

This testing adopts bottom-up integration. We test the program with main page first, then each function, then the detail in each function.

1. Test Cases

|  |  |
| --- | --- |
| **Test Case Name:** | Testing the integration between Room class and Building class |
| **Test Case Description:** | Testing the Building class could correctly add, find, or set a room class. |
| **Test Steps:** | 1. To test addRoom() function, we called the function serval times with some dummy room data. 2. To test getRoom() function, we call the function serval times with dummy data used in addRoom() function test, and check whether these searches would return the room object. 3. To test setRoom() function, we first have to ensure the getRoom() function perform well, then we will try to modify the data in the returned Room Object, then save it back to the ArrayList. |
| **Pre-Requisites:** | None |
| **Expected Results:** | 1. After the addRoom() function is called, a new Room object is added to the room ArrayList stored in Building object 2. The room object in ArrayList is successfully returned 3. The room object is correctly get and the new room data is stored back into the list |
| **Test Category:** | Integration Testing |
| **Requirement:** | None |
| **Automation:** | Manually run by human |
| **Date Run:** | 2023/3/1 |
| **Pass/Fail:** | Pass |
| **Test Results:** | 1. Room object is successfully created and added into the list. 2. Room object is correctly returned. 3. Room object is correctly returned, and the modified room object is correctly stored into the list. |
| **Remarks:** | The test passed. The integration functions well. |

|  |  |
| --- | --- |
| **Test Case Name:** | Testing the integration between Floor class and Building class |
| **Test Case Description:** | Testing the Building class could correctly add, find, or set a floor class. |
| **Test Steps:** | 1. To test addFloor() function, we called the function serval times with one empty floor, and some Floor with dummy data. 2. To test getFloor () function, we call the function serval times with dummy data used in addFloor () function test, and check whether these searches would return the Floor object. 3. To test setFloor () function, we will try to make changes to the data in the returned Floor Object, then save it into to the ArrayList. |
| **Pre-Requisites:** | None |
| **Expected Results:** | 1. After the addFloor () function is called, a new Floor object is added to the room ArrayList stored in Building object 2. The Floor object in ArrayList is successfully returned 3. The Floor object is correctly get and the new Floor data is stored back into the list |
| **Test Category:** | Integration Testing |
| **Requirement:** | Driver.java |
| **Automation:** | Manually run by human |
| **Date Run:** | 2023/3/1 |
| **Pass/Fail:** | Pass |
| **Test Results:** | 1. Floor object is successfully created and added into the list. 2. Floor object is correctly returned. 3. Floor object is correctly returned, and the modified Floor object is correctly stored into the list. |
| **Remarks:** | The test passed. The integration functions well. |

|  |  |
| --- | --- |
| **Test Case Name:** | Testing the integration between Floor class and Building class |
| **Test Case Description:** | Testing the Building class could correctly add, find, or set a floor class. |
| **Test Steps:** | 1. To test addFloor() function, we called the function serval times with one empty floor, and some Floor with dummy data. 2. To test getFloor () function, we call the function serval times with dummy data used in addFloor () function test, and check whether these searches would return the Floor object. 3. To test setFloor () function, we will try to make changes to the data in the returned Floor Object, then save it into to the ArrayList. |
| **Pre-Requisites:** | None |
| **Expected Results:** | 1. After the addFloor () function is called, a new Floor object is added to the room ArrayList stored in Building object 2. The Floor object in ArrayList is successfully returned 3. The Floor object is correctly get and the new Floor data is stored back into the list |
| **Test Category:** | Integration Testing |
| **Requirement:** | Driver.java |
| **Automation:** | Manually run by human |
| **Date Run:** | 2023/3/1 |
| **Pass/Fail:** | Pass |
| **Test Results:** | 1. Floor object is successfully created and added into the list. 2. Floor object is correctly returned. 3. Floor object is correctly returned, and the modified Floor object is correctly stored into the list. |
| **Remarks:** | The test passed. The integration functions well. |