**Test design**

**Configuration of the Scenarios**

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| **Name** | **Class** | **Scenario** |
| setUpStage1 | Plane | A plane with:  {  numFLight= “MidgetAirlines”  rows=5  columns= 1  rowsfirstclass= 2  } |
| setUpStage2 | Plane | A plane with:  {  numFLight=“Drugmaxdealer”  rows= 4  columns= 2  rowsfirstclass= 0  } |
| setUpStage3 | Plane | A plane with:  {  numFLight= “Viagrafly”  rows=4  columns= 2  rowsfirstclass= 4  } |
| setUpStage4 | Passenger | A list of passengers with:  {  name={olvir Eusebius,Cassian Rufina,Erkan Noriko,Harpreet Aleksandra,Adalhaid Milda,Oskars Muthoni,Anastasia Amahle,Yasen Alaric,Rozalija Raginaharjaz,Yarik Komang}  id={1110,290123,18200,610340,950562,396014,1130584, 851944,1042984,44100}  ticket={1a,2b,1c,1d,2a,1e,2c,2d,2e,1b}  miles={10,100,1000,250,2500,25,365,653,536,9564}  typeofhelp={none,none,none,none,physical disability,mental disability,none, kid, age,pregnancy }  ArrivalTime={2023-04-01 08:30:00,2023-04-01 10:15:00, 2023-04-01 11:00:00,2023-04-01 12:45:00,2023-04-01 13:30:00,  2023-04-01 15:00:00,2023-04-01 16:15:00,2023-04-01 18:00:00,  2023-04-01 19:45:00,2023-04-01 20:30:00}  } |
| setUpStage5 | Passenger | A list of passengers with:  {  name={olvir Eusebius,Cassian Rufina,Harpreet Aleksandra,Oskars Muthoni,Anastasia Amahle,Yasen Alaric,Rozalija Raginaharjaz,Yarik Komang}  id={1110,290123,18200,610340,950562,396014,1130584, 851944}  ticket={1a,2b,3c,4d,2a,1b,2c,1d}  miles={0,0,0,0,0,0,0,0}  typeofhelp={none,none,none,none,none,none,none, none }  ArrivalTime={2023-04-01 08:30:00,2023-04-01 10:15:00, 2023-04-01 11:00:00,2023-04-01 12:45:00,2023-04-01 13:30:00,  2023-04-01 15:00:00,2023-04-01 16:15:00,2023-04-01 18:00:00}  } |
| setUpStage6 | Passenger | A list of passengers with:  {  name={olvir Eusebius,Cassian Rufina,Harpreet Aleksandra,Oskars Muthoni,Anastasia Amahle,Yasen Alaric,Rozalija Raginaharjaz,Yarik Komang}  id={1110,290123,18200,610340,950562,396014,1130584, 851944}  ticket={1a,2b,3c,4d,2a,1b,2c,1d}  miles={350,125,500,95,350,95,125,500}  typeofhelp={physical disability,mental disability,age,pregnancy,kid,physical disability,pregnancy, mental disability}  ArrivalTime={2023-04-01 08:30:00,2023-04-01 10:15:00, 2023-04-01 11:00:00,2023-04-01 12:45:00,2023-04-01 13:30:00,  2023-04-01 15:00:00,2023-04-01 16:15:00,2023-04-01 18:00:00}  } |
| setUpStage7 | Passenger | A list of passengers with:  {  name={olvir Eusebius,Cassian Rufina,Harpreet Aleksandra,Oskars Muthoni,Anastasia Amahle,Yasen Alaric,Rozalija Raginaharjaz,Yarik Komang}  id={A100,290123,18R200,610+340,950562,396\*014,1130584, 851+/-944}  ticket={1a,2b,3c,4d,5e,6f,7,8p}  miles={350,125,500,95,350,95,125,s00}  typeofhelp={physical disability,mental disability,age,pregnancy,kid,physical disability,pregnancy, mental disability}  ArrivalTime={2023-04-01 08:30:00,2023-04-01 10:15:00, 2023-04-01 11:00:00,2023-04-01 12:45:00,2023-04-01 13:30:00,  2023-04-01 15:00:00,2023-04-01 16:15:00,2023-04-01 18:00:00}  } |
| setUpStage8 | Passenger | name={olvir Eusebius}  id={1110}  ticket={1a}  miles={350}  typeofhelp={physical disability}  Arrivaltime={2023-04-01 08:30:00} |
| setUpStage9 | Passenger | name={anatoly karpov}  id={1110290182}  ticket={4a}  miles={908}  typeofhelp={none}  Arrivaltime={2023-04-01 08:35:00} |

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| **Objective of the Test:the purpose of the test is to show the different cases with respect to the functionality of loading from a json or txt the information** | | | |
| **Class** | **Mehod** | **Scenario** | **Expected result** |
| AirlineController | jsonInFlightInfo  jsonInFlightPassengerInfo | setUpStage1  setUpStage6 | the system should return a list with all the data that was loaded. |
| AirlineController | jsonInFlightInfo  jsonInFlightPassengerInfo | setUpStage1  setUpStage4 | the system should return a list with all the data that was loaded. |
| AirlineController | jsonInFlightInfo  jsonInFlightPassengerInfo | setUpStage3  setUpStage4 | an exception of maximum aircraft size reached should be displayed. |
| AirlineController | jsonInFlightInfo  jsonInFlightPassengerInfo | setUpStage4 | the system must return an exception of missing plane data |
| AirlineController | jsonInFlightInfo  jsonInFlightPassengerInfo | setUpStage1 | the system must return an exception of nonexistent passenger data |

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| **Objective of the Test: the purpose of this test is to test everything related to the hash table insert method.** | | | |
| **Class** | **Mehod** | **Scenario** | **Expected result** |
| **Hashtable** | **insert** | **SetupStage4**  **SetupStage8** | **the size must change the size in +1** |
| **Hashtable** | **insert** | **SetupStage6**  **SetupStage8** | **the system should return an equal object exception.** |
| **Hashtable** | **insert** | **SetupStage1** | **the system should return an incorrect object type exception.** |

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| **Objective of the Test: the purpose of this test is to test everything related to the hash table delete method.** | | | |
| **Class** | **Mehod** | **Scenario** | **Expected result** |
| **Hashtable** | **delete** | **SetupStage4**  **SetupStage8** | **the system should return an inexistent object exception.** |
| **Hashtable** | **delete** | **SetupStage6**  **SetupStage8** | **the size must change the size in -1** |
| **Hashtable** | **delete** | **SetupStage1** | **the system should return an incorrect object type exception.** |

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| **Objective of the Test: the purpose of this test is to test everything related to the hash table search method.** | | | |
| **Class** | **Mehod** | **Scenario** | **Expected result** |
| **Hashtable** | **search** | **SetupStage4**  **SetupStage8** | **the system should return a message of a nonexistent object .** |
| **Hashtable** | **search** | **SetupStage6**  **SetupStage8** | **the system should return an object with :**  {olvir Eusebius,1110,1a,350,physical disability} |
| **Hashtable** | **search** | **SetupStage1** | **the system should return an incorrect object type exception.** |

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| **Objective of the Test: the purpose of this test is to test everything related to the queue is empty method.** | | | |
| **Class** | **Mehod** | **Scenario** | **Expected result** |
| **Queue** | **isEmpty** | setUpStage1  setUpStage4 | **System should return:**  **{false}** |
| **Queue** | **isEmpty** | setUpStage2 | **System should return:**  **{true}** |
| **Queue** | **isEmpty** | setUpStage3  setUpStage7 | **System should return:**  **{true}** |

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| **Objective of the Test: the purpose of this test is to test everything related to the queue add method.** | | | |
| **Class** | **Mehod** | **Scenario** | **Expected result** |
| **Queue** | **add** | setUpStage1  setUpStage4 | **System should return after queue adds:**  {Adalhaid Milda,950562,2a,2500,physical disability, 2023-04-01 13:30:00}  {olvir Eusebius,1110,1a,10,none, 2023-04-01 10:15:00}  {Yarik Komang,44100,1b,9564,pregnancy, 2023-04-01 20:30:00}  {Cassian Rufina,290123,2b,100,none, 2023-04-01 10:15:00}  {Erkan Noriko,18200,1c,1000,none, 2023-04-01 11:00:00}  {Anastasia Amahle,1130584,2c,365,none, 2023-04-01 16:15:00}  {Harpreet Aleksandra,610340,1d,250,none, 2023-04-01 12:45:00}  {Yasen Alaric,851944,2d,653,kid, 2023-04-01 18:00:00}  {Oskars Muthoni,396014,1e,25,mental disability, 2023-04-01 18:00:00}  {Rozalija Raginaharjaz,1042984,2e,536,age, 2023-04-01 19:45:00} |
| **Queue** | **add** | setUpStage1  setUpStage4  setUpStage8 | **the system should return an equal object exception** |
| **Queue** | **add** | setUpStage3  setUpStage4  setUpStage9 | **System should return after queue adds:**  {Adalhaid Milda,950562,2a,2500,physical disability, 2023-04-01 13:30:00}  {anatoly karpov, 1110290182, 4a, 908, none, 2023-04-01 08:35:00}  {olvir Eusebius,1110,1a,10,none, 2023-04-01 10:15:00}  {Cassian Rufina,290123,2b,100,none, 2023-04-01 10:15:00}  {Yarik Komang,44100,1b,9564,pregnancy, 2023-04-01 20:30:00}  {Anastasia Amahle,1130584,2c,365,none, 2023-04-01 16:15:00}  {Erkan Noriko,18200,1c,1000,none, 2023-04-01 11:00:00}  {Yasen Alaric,851944,2d,653,kid, 2023-04-01 18:00:00}  {Harpreet Aleksandra,610340,1d,250,none, 2023-04-01 12:45:00}  {Rozalija Raginaharjaz,1042984,2e,536,age, 2023-04-01 19:45:00}  {Oskars Muthoni,396014,1e,25,mental disability, 2023-04-01 18:00:00} |

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| **Objective of the Test: the purpose of this test is to test everything related to the queue poll method.** | | | |
| **Class** | **Mehod** | **Scenario** | **Expected result** |
| **Queue** | **poll** | setUpStage1  setUpStage4 | **System should return first object:**  {Adalhaid Milda,950562,2a,2500,physical disability, 2023-04-01 13:30:00} |
| **Queue** | **poll** | setUpStage1 | **System should return first object:**  **null** |
| **Queue** | **poll** | setUpStage3  setUpStage4  setUpStage9 | **System should return after queue adds:**  {Adalhaid Milda,950562,2a,2500,physical disability, 2023-04-01 13:30:00} |

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| **Objective of the Test: the purpose of this test is to test everything related to the max heap Insert method.** | | | |
| **Class** | **Mehod** | **Scenario** | **Expected result** |
| **Maxheap** | **insert** | setUpStage1  setUpStage2 | the system should return an incorrect object type exception. |
| **Maxheap** | **insert** | setUpStage1 | **the system should return a non-existent object exception** |
| **Maxheap** | **insert** | setUpStage1  setUpStage8 | the heap size must be increased by 1 |

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| **Objective of the Test: the purpose of this test is to test everything related to the max heap maximum method.** | | | |
| **Class** | **Mehod** | **Scenario** | **Expected result** |
| **Maxheap** | **maximum** | setUpStage1  setUpStage4 | the system must return the object:  {Adalhaid Milda,950562,2a,2500,physical disability, 2023-04-01 13:30:00} |
| **Maxheap** | **maximum** | setUpStage1 | the system must return the object:  **null** |
| **Maxheap** | **maximum** | setUpStage1  setUpStage9 | {anatoly karpov,1110290182,4a,908,none,2023-04-01 08:35:00} |

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| **Objective of the Test: the purpose of this test is to test everything related to the max heap extract\_max method.** | | | |
| **Class** | **Mehod** | **Scenario** | **Expected result** |
| **Maxheap** | **extract\_max** | setUpStage1  setUpStage4 | the system must return the object:  {Adalhaid Milda,950562,2a,2500,physical disability, 2023-04-01 13:30:00}  and change the size to 9 |
| **Maxheap** | **extract\_max** | setUpStage1 | the system must return the object:  **null** |
| **Maxheap** | **extract\_max** | setUpStage1  setUpStage9 | the system must return the object:  {anatoly karpov,1110290182,4a,908,none,2023-04-01 08:35:00}  and change the size to 0 |

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| **Objective of the Test: the purpose of this test is to test everything related to the max heap increase\_key method.** | | | |
| **Class** | **Mehod** | **Scenario** | **Expected result** |
| **Maxheap** | **increase\_key** | SetUpStage1  SetUpStage8 | in this test we are going to change the object's key to a negative key and therefore the system should throw an invalid key exception. |
| **Maxheap** | **increase\_key** | SetUpStage1  SetUpStage9 | **in this test we are going to change the object's key to a key of 1000 so it is larger than the size of the aircraft and it will not be able to be located and the system should return an exception of the maximum size of the aircraft.** |
| **Maxheap** | **increase\_key** | SetUpStage1  SetUpStage8 | in this test we will change the object's key to the same key plus 1 so it should change its seat to the following one |