The file “input.txt” has the contents:  
  
2 0 7.0 77.0

3 2 12.0 122.0

0 3 14.0 144.0

1 0 5.0 101.0

3 1 10.0 66.0

1 2 6.0 55.0

The file “onlyOne.txt” has the contents:

11 29 1.9 9.4

|  |  |  |  |
| --- | --- | --- | --- |
| Test ID | Description | Expected Results | Actual Results |
| Test #1 (DT) –  Trying to Load an Invalid File | Prereq: The file “fake.txt” does not exist, and the user has started the program.   1. At the file prompt, enter “fake.txt”. | The program should re-prompt the user for an input file. | SUCCESS, the program re-prompts for valid input. |
| Test #2 (ECP) –  Load a Valid File | Prereq: The file “input.txt” exists, and the contents are described as above, the user has started the program.   1. At the file prompt, enter “input/input.txt”. | The program should prompt the user between building a minimum spanning tree based off-of “cost” or “asphalt”. | SUCCESS, the program prompts for an MST type selection. |
| Test #3 (BVA) –  Build Tree with Only One Edge | Prereq: The file “onlyOne.txt” exists, and the contents are described as above, the user has started the program.   1. At the file prompt, enter “input/onlyOne.txt”. 2. At the MST type selection, the user enters “cost”. | The following is printed to standard output, and the user is again prompted for MST type: List[  ] | SUCCESS, the empty list is printed to console output. |
| Test #4 (ECP) –  Build a Cost-based MST | Prereq: Test #2 is passing and the program is prompting the user to choose MST type.   1. At the MST type selection, the user enters “cost”. | The following is printed to standard output, and the user is again prompted for MST type:  List[  Highway[city1=1, city2=0, cost=5.0, asphalt=101.0],  Highway[city1=1, city2=2, cost=6.0, asphalt=55.0],  Highway[city1=3, city2=1, cost=10.0, asphalt=66.0]  ] | SUCCESS, the correct list is printed to console output. |
| Test #5 (ECP) –  Build an Asphalt-based MST | Prereq: Test #2 is passing and the program is prompting the user to choose MST type.   1. At the MST type selection, the user enters “asphalt”. | The following is printed to standard output, and the user is again prompted for MST type:  List[  Highway[city1=1, city2=2, cost=6.0, asphalt=55.0],  Highway[city1=3, city2=1, cost=10.0, asphalt=66.0],  Highway[city1=2, city2=0, cost=7.0, asphalt=77.0]  ] | SUCCESS, the correct list is printed to console output. |
| Test #6 (ECP) - Quit | Prereq: The program has started.   1. At any point, the user enters “quit”. | The program stops executing. | SUCCESS, the program stops. |