Demo

Output:

Test1:Invalid file name

```
Enter the input filename: jhd.txt
Can't open input file


Unable to read file.
```

Test2: open the file and read the input

```
Enter the input filename: CellTowers1.txt

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| Prim's Algorithms' Main Menu: |
---------------------------------
1.Add a New CellTower connection to the Graph
2.Delete Existing CellTower Connection
3.Show Existing Graph
4.Show Adjacency List
5.Show The Minimum Spanning Tree
6.Undo remove
7.Exit
```

Test3: It add the new cell Tower or if Cell Tower already exists it creates the new path

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| Prim's Algorithms' Main Menu: |
---------------------------------
1.Add a New CellTower connection to the Graph
2.Delete Existing CellTower Connection
3.Show Existing Graph
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5.Show The Minimum Spanning Tree
6.Undo remove
7.Exit


Please enter your choice:1
1. Add a new CellTower connection to the Graph

Enter CellTower1 Name: SanLeandro

Enter CellTower2 Name: HayWard

Enter the distance between CellTowers:34.78
Added Successfully!
```

Test4: It shows if I give some different cellTower name which creates different graph. It shows invalid celltower.

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| Prim's Algorithms' Main Menu: |
---------------------------------
1.Add a New CellTower connection to the Graph
2.Delete Existing CellTower Connection
3.Show Existing Graph
4.Show Adjacency List
5.Show The Minimum Spanning Tree
6.Undo remove
7.Exit


Please enter your choice: 1
1. Add a new CellTower connection to the Graph

Enter CellTower1 Name:d

Enter CellTower2 Name:q

Enter the distance between CellTowers:2.78

Cannot add this edge since it results in a disconnected graph
Please try again with a valid edge
```

Test5:Invalid cellTower to remove.

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| Prim's Algorithms' Main Menu: |
---------------------------------
1.Add a New CellTower connection to the Graph
2.Delete Existing CellTower Connection
3.Show Existing Graph
4.Show Adjacency List
5.Show The Minimum Spanning Tree
6.Undo remove
7.Exit


Please enter your choice:2
1. Enter the CellTower you want to want to remove

Enter CellTower1 Name:a

Enter CellTower2 Name:d
Unable to remove

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| Prim's Algorithms' Main Menu: |
---------------------------------
1.Add a New CellTower connection to the Graph
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3.Show Existing Graph
4.Show Adjacency List
5.Show The Minimum Spanning Tree
6.Undo remove
7.Exit
```

Test 6:Remove Edge between CellTowers

```
Please enter your choice:2
1. Enter the CellTower you want to want to remove

Enter CellTower1 Name:MountainView

Enter CellTower2 Name:Santaclara
31.23
Removed MountainView to Santaclara successfully!
```

Test7: Breadth First Traversal.

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| Prim's Algorithms' Main Menu: |
---------------------------------
1.Add a New CellTower connection to the Graph
2.Delete Existing CellTower Connection
3.Show Existing Graph
4.Show Adjacency List
5.Show The Minimum Spanning Tree
6.Undo remove
7.Exit
Please enter your choice:3
cellTower = DalyCity was visited
cellTower = SanFrancisco was visited
cellTower = SanMateo was visited
cellTower = Berkeley was visited
cellTower = Richmond was visited
cellTower = Millbrae was visited
cellTower = FasterCity was visited
cellTower = BairIsland was visited
cellTower = SanLeandro was visited
cellTower = Belmont was visited
cellTower = PaloAlto was visited
cellTower = Hayward was visited
cellTower = SunnyVale was visited
cellTower = MenloPark was visited
cellTower = SanJose was visited
cellTower = MountainView was visited
cellTower = UnionCity was visited
cellTower = cupertino was visited
cellTower = SantaClara was visited
cellTower = Milpitas was visited
cellTower = Fremont was visited
```

Test7: Adjacency List of CellTowers .It asks user do you want to store it into the text file or not

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---------------------------------
| Prim's Algorithms' Main Menu: |
---------------------------------
1.Add a New CellTower connection to the Graph
2.Delete Existing CellTower Connection
3.Show Existing Graph
4.Show Adjacency List
```

```
5.Show The Minimum Spanning Tree
6.Undo remove
7.Exit


Please enter your choice:4
------------------------
Adj List for DalyCity: SanFrancisco(28.0) SanMateo(35.1)
Adj List for MenloPark: PaloAlto(11.0)
Adj List for Richmond: Berkeley(65.8) SanFrancisco(89.9)
Adj List for SanJose: SantaClara(10.7) Milpitas(28.8) PaloAlto(49.0)
Adj List for UnionCity: Hayward(83.2) Fremont(67.3)
Adj List for Fremont: UnionCity(67.3) Milpitas(90.2)
Adj List for SanLeandro: Berkeley(131.0) Hayward(34.8)
Adj List for Milpitas: SantaClara(20.6) SanJose(28.8) Fremont(90.2)
Adj List for FasterCity: Belmont(13.4) SanMateo(9.1)
Adj List for PaloAlto: SunnyVale(19.9) MenloPark(11.0) SanJose(49.0)
BairIsland(35.0) MountainView(20.8)
Adj List for MountainView: SunnyVale(15.0) cupertino(12.0) PaloAlto(20.8)
Adj List for SanMateo: DalyCity(35.1) Millbrae(24.1) FasterCity(9.1)
SanFrancisco(80.9) BairIsland(83.2)
Adj List for SunnyVale: cupertino(13.5) PaloAlto(19.9) MountainView(15.0)
Adj List for cupertino: SunnyVale(13.5) MountainView(12.0)
Adj List for Belmont: FasterCity(13.4) BairIsland(15.6)
Adj List for Berkeley: Richmond(65.8) SanLeandro(131.0) SanFrancisco(111.0)
Adj List for SantaClara: SanJose(10.7) Milpitas(20.6)
Adj List for Hayward: UnionCity(83.2) SanLeandro(34.8)
Adj List for Millbrae: SanMateo(24.1)
Adj List for SanFrancisco: DalyCity(28.0) Berkeley(111.0) Richmond(89.9)
SanMateo(80.9)
Adj List for BairIsland: Belmont(15.6) PaloAlto(35.0) SanMateo(83.2)

Would you like to write to a file? (Y/y): y
What file would you like to write to? adj.txt
```

Test 8: Minimum Spanning Tree and asks user for text file name to store the output or minimum Spanning tree.

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---------------------------------
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6.Undo remove
7.Exit


Please enter your choice:5
Please enter your choice:5
Enter the city name frome where you want to search?
Milpitas
Edge: Milpitas to SantaClara, distance: 20.56
Edge: SantaClara to SanJose, distance: 10.66
Edge: SanJose to PaloAlto, distance: 49.03
Edge: PaloAlto to MenloPark, distance: 10.99
```

```
Edge: PaloAlto to SunnyVale, distance: 19.87
Edge: SunnyVale to cupertino, distance: 13.54
Edge: cupertino to MountainView, distance: 11.98
Edge: PaloAlto to BairIsland, distance: 35.04
Edge: BairIsland to Belmont, distance: 15.56
Edge: Belmont to FasterCity, distance: 13.36
Edge: FasterCity to SanMateo, distance: 9.06
Edge: SanMateo to Millbrae, distance: 24.09
Edge: SanMateo to DalyCity, distance: 35.9
Edge: DalyCity to SanFrancisco, distance: 28.02
Edge: SanFrancisco to Richmond, distance: 89.87
Edge: Richmond to Berkeley, distance: 65.79
Edge: Milpitas to Fremont, distance: 90.23
Edge: Fremont to UnionCity, distance: 67.34
Edge: UnionCity to Hayward, distance: 83.21
Edge: Hayward to SanLeandro, distance: 34.78

The total minimum Weight of the graph or Spanning tree: 728.88

What filename would you like to write to?
out.txt
```

Test 9:Quit from console

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| Prim's Algorithms' Main Menu: |
---------------------------------
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6.Undo remove
7.Exit


Please enter your choice:7


Program ended.
```