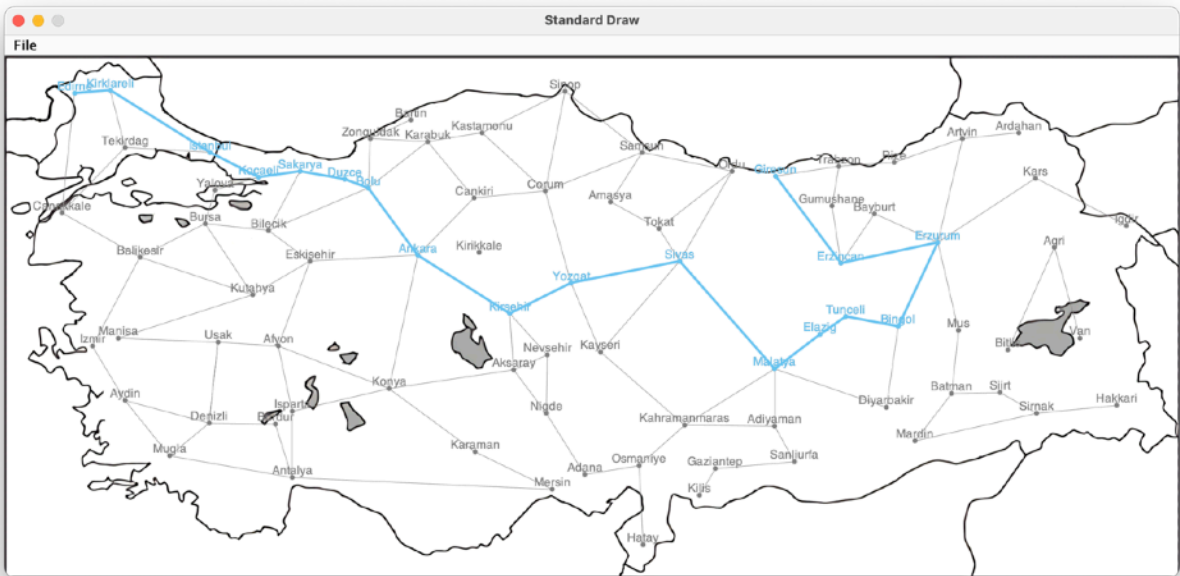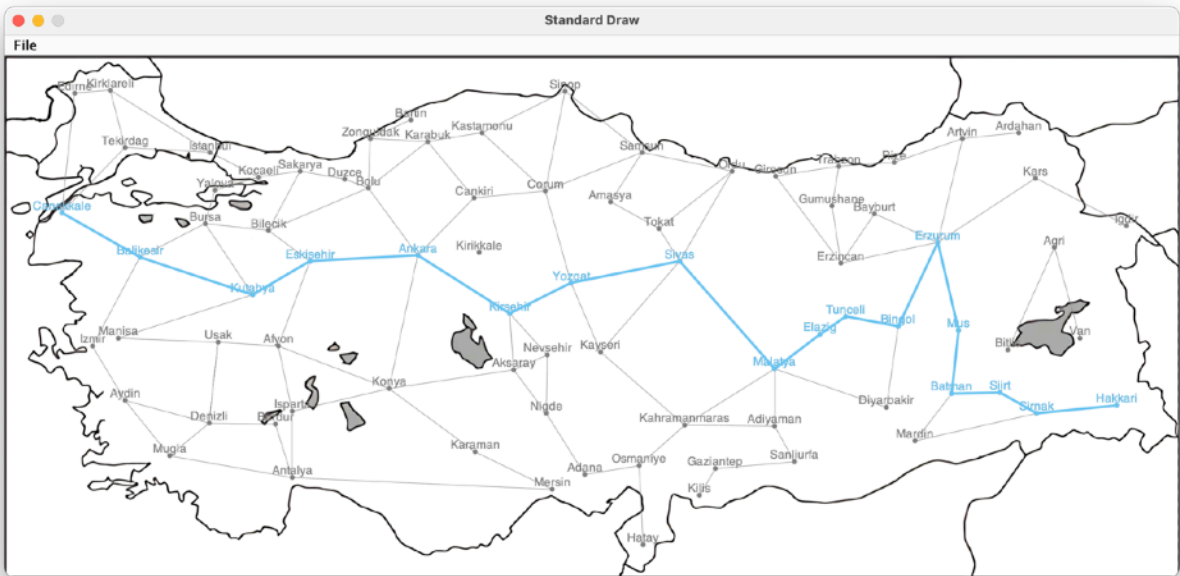# CMPE 160 ASSİGNMENT 2

TURKEY NAVİGATİON

Enes Öztürk
2022400042

Case 1: Edirne to Giresun


```
/Library/Java/JavaVirtualMachines/jdk-21.jdk/Contents/Home/bin/java -javaagent:/Applications/IntelliJ IDEA CE.app/Contents/lib/idea_rt.jar=54935:/Applications/IntelliJ IDEA CE.app/Contents/bin -Dfile
Enter starting city: Edirne
Enter destination city: Giresun
Total Distance: 2585.49. Path:Edirne->Kirklareli->Istanbul->Kocaeli->Sakarya->Duzce->Bolu->Ankara->Kirsehir->Yozgat->Sivas->Malatya->Elazig->Tunceli->Bingol->Erzurum->Erzincan->Giresun
```
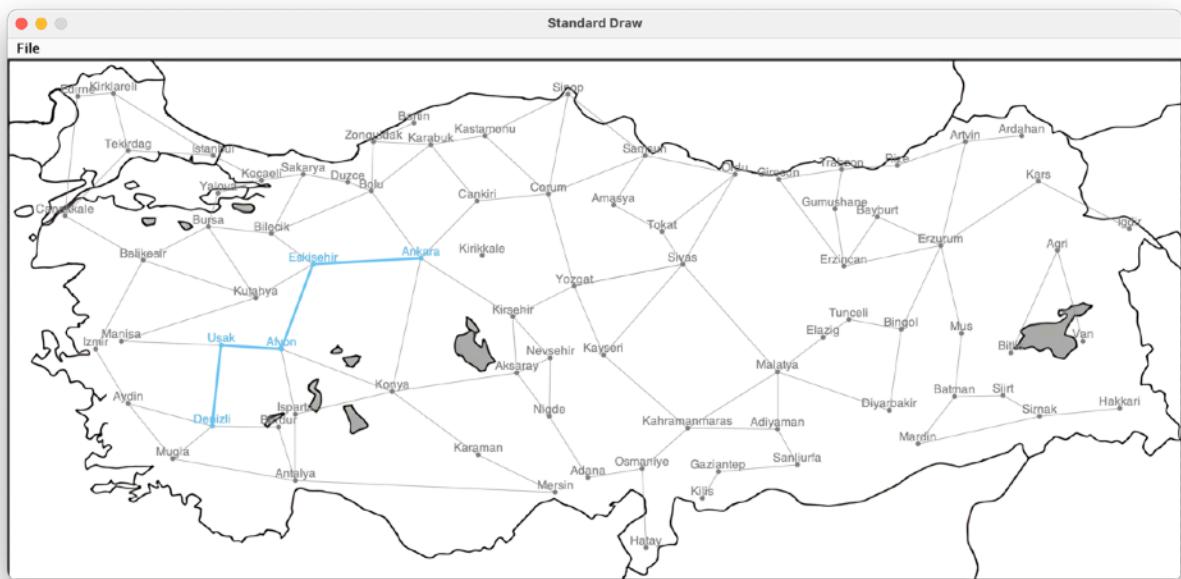
Case 2: Çanakkale to Hakkari


```
/Library/Java/JavaVirtualMachines/jdk-21.jdk/Contents/Home/bin/java -javaagent:/Applications/IntelliJ IDEA CE.app/Contents/lib/idea_rt.jar=54939:/Applications/IntelliJ IDEA CE.app/Contents/bin -Dfile
Enter starting city: Canakkale
Enter destination city: Hakkari
Total Distance: 2780.87. Path:Canakkale->Balikesir->Kutahya->Eskisehir->Ankara->Kirsehir->Yozgat->Sivas->Malatya->Elazig->Tunceli->Bingol->Erzurum->Mus->Batman->Siirt->Sirnak->Hakkari
```

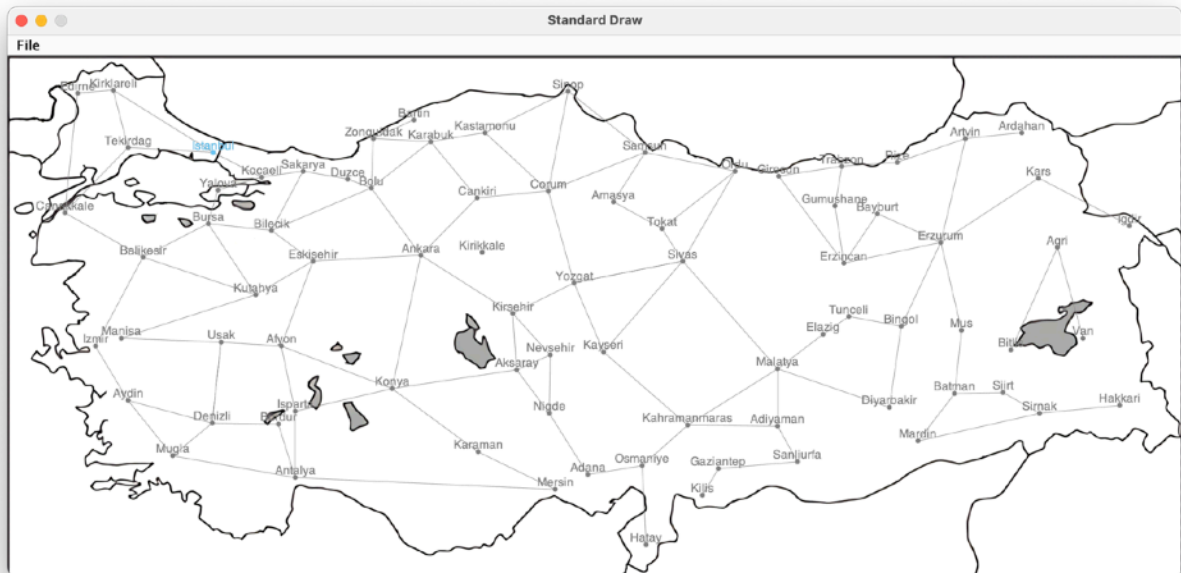# Case 3: Invalid city names: User should be prompted again to enter a valid city name.


```
/Library/Java/JavaVirtualMachines/jdk-21.jdk/Contents/Home/bin/java -javaagent:/Applications/IntelliJ IDEA CE.app/Contents/lib/idea_rt.jar=54942:/Applications/IntelliJ IDEA CE.app/Contents/bin -Dfile
Enter starting city: Anka
City named 'Anka' not found. Please enter a valid city name.
Enter starting city: Ankara
Enter destination city: Deni
City named 'Deni' not found. Please enter a valid city name.
Enter destination city: Denizli
Total Distance: 689.18. Path:Ankara->Eskisehir->Afyon->Usak->Denizli
```

Case 4: Path to the same city


```
/Library/Java/JavaVirtualMachines/jdk-21.jdk/Contents/Home/bin/java -javaagent:/Applications/IntelliJ IDEA CE.app/Contents/lib/idea_rt.jar=54946:/Applications/IntelliJ IDEA CE.app/Contents/bin -Dfile
Enter starting city: Istanbul
Enter destination city: Istanbul
Total Distance: 0.00. Path:Istanbul
```

Case 5: Unreachable city pairs:

```
/Library/Java/JavaVirtualMachines/jdk-21.jdk/Contents/Home/bin/java -javaagent:/Applications/IntelliJ IDEA CE.app/Contents/lib/idea_rt.jar=54949:/Applications/IntelliJ IDEA CE.app/Contents/bin -Dfil
Enter starting city: Izmir
Enter destination city: Van
There is no way from Izmir to Van

Process finished with exit code 0
```

distanceList:= array with default value of infinity
distance[start city]:=0

Visited:= array list with default none string value
While #visited citiy<#total city
        currentCityIndex := index of the node in unvisited with the smallest distance
        if min value is equal to infinity
                end
        for each neighbor of current
                if neighbor is not in visited
                        distance := distance[current] + distance between current and
neighbor
                        if distance < distanceList[neighbor]
                                distanceList[neighbor] := distance
        add current city name to the visited
        number:=previous min value

Reference:
https://www.youtube.com/watch?v=pVfj6mxhdMw to learn algorithm
https://chat.openai.com/ to find error