Class AdjacentMatrix

```
- ROWS:int const
- COLUMNS:int const
- matrix:double**
```
```
+ Adjacency()
+ initializeArray(ifstream:ifstream*):void
+ returnTravelTime(fromCity:int, toCity:int) double
+ printAll():void
+ getRows():int
+ getColumns():int
+ ~Adjacency()
```

Class GA

```
- intitialTours:int
- generations:int
- mutationPercentage:double
- totalTimeTraveled:double
- minPath:double
- cities:int
- path:vector<int>
- tours:vector<vector<int>>
- rng:mt19937
- totalElapsed:double
```
```
+ GA(initialTours:int, generations:int, mutationPercentage:int, cities:int)
+ getShortestPath(matrix:Adjacency&, running:atomic<bool>&):string
+ initializeTours():void
+ generateTour():vector<int>
+ tourDistance(matrix:Adjacency&):double
+ evaluateTours(matrix:Adjacency&):void
+ mutate():void
+ getTimeElapsed():double
+ getTimeTraveled():double
```

Class BruteForce

```
- elpasedTime:double
- minPath:double
- totalTimeTraveled:double
- path:vector<int>
```
```
+ BF()
+ getShortestPath(matrix:Adjacency&, cities:int, running:atomic<bool>):string
+ timer(running:atmoic<bool>&):void
+ getTimeElapsed():double
+ getTotalTimeTraveled():double
```

main.cpp

```
main to run simulation
```