Ashish Jain (MT18052)
Assignment 2

Q4.a

```
ashish@Linux-PC:~/repos/MT18052/DMG/Assignment2$ python MainMethod.py
Data Points Read  [[1], [2], [3], [4], [8], [9], [10], [11], [12], [24], [28], [32], [36], [40]]
Enter Clusters count: 3
Enter Algorithm to Run
1.K Means
2.K Medians
: 1
Enter your choice for initial Representative selection
1.Random from Datapoints
2.Select from Datapoints
: 2
1   [1]
2   [2]
3   [3]
4   [4]
5   [8]
6   [9]
7   [10]
8   [11]
9   [12]
10   [24]
11   [28]
12   [32]
13   [36]
14   [40]
Enter ',' separated index of 3 data points: 8,1,11
Initial Seed Selected [[11], [1], [28]]
Iterations count:  2
Converging Representative:  [[10.0], [2.5], [32.0]]
cluster 1 [[8], [9], [10], [11], [12]]
cluster 2 [[1], [2], [3], [4]]
cluster 3 [[24], [28], [32], [36], [40]]
```

Q4.b

```
ashish@Linux-PC:~/repos/MT18052/DMG/Assignment2$ python MainMethod.py
Data Points Read  [[1], [2], [3], [4], [8], [9], [10], [11], [12], [24], [28], [32], [36], [40]]
Enter Clusters count: 3
Enter Algorithm to Run
1.K Means
2.K Medians
: 1
Enter your choice for initial Representative selection
1.Random from Datapoints
2.Select from Datapoints
: 2
1   [1]
2   [2]
3   [3]
4   [4]
5   [8]
6   [9]
7   [10]
8   [11]
9   [12]
10   [24]
11   [28]
12   [32]
13   [36]
14   [40]
Enter ',' separated index of 3 data points: 1,2,3
Initial Seed Selected [[1], [2], [3]]
Iterations count:  5
Converging Representative:  [[2.5], [10.0], [32.0]]
cluster 1 [[1], [2], [3], [4]]
cluster 2 [[8], [9], [10], [11], [12]]
cluster 3 [[24], [28], [32], [36], [40]]
```

Q4.c

It depends on the initial seed Representative set how soon the convergence will reach and which element's will belong to which cluster and it is not always true that every time with different seed same clusters will form different seed may results in different clusters with different datapoints.