

Name: Ebram Thabet

Id: 900214496

This is the output of the program.

For each cluster, a number of points (200 in the question) are generated randomly within the given ranges, and the average of the x coordinates is the center of the cluster, the same applies for y.

Other points are filled with random numbers within the given range and are passed to the function `closest()` that measures to which cluster these points are near using Euclidean distances.

```
Center of cluster A is of coordinates: (79.1818,80.3201)
Center of cluster B is of coordinates: (29.858,29.7125)
Point 1 has coordinates (94.303,27.794)
  it is closest to cluster 1
Point 2 has coordinates (36.1612,98.9157)
  it is closest to cluster 1
Point 3 has coordinates (11.4711,65.7482)
  it is closest to cluster 2
Point 4 has coordinates (6.38005,58.6653)
  it is closest to cluster 2
Point 5 has coordinates (58.0274,17.4552)
  it is closest to cluster 2
Point 6 has coordinates (80.6561,7.00339)
  it is closest to cluster 2
Point 10 has coordinates (60.3758,64.9451)
  it is closest to cluster 1
Point 11 has coordinates (39.6751,75.336)
  it is closest to cluster 1
Point 12 has coordinates (75.7593,28.8928)
  it is closest to cluster 2
Point 13 has coordinates (93.9724,49.7182)
  it is closest to cluster 1
Point 14 has coordinates (98.7301,92.8823)
  it is closest to cluster 1
Point 15 has coordinates (64.5914,56.2676)
  it is closest to cluster 1
Point 16 has coordinates (55.3659,54.5483)
  it is closest to cluster 1
Point 17 has coordinates (73.4573,92.1923)
  it is closest to cluster 1
Point 18 has coordinates (52.6406,9.78378)
  it is closest to cluster 2
Point 19 has coordinates (55.0499,20.108)
  it is closest to cluster 2
Point 20 has coordinates (31.9892,73.8168)
  it is closest to cluster 2
```