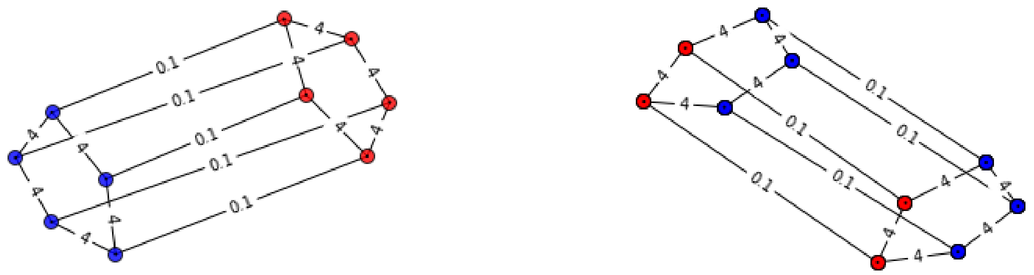
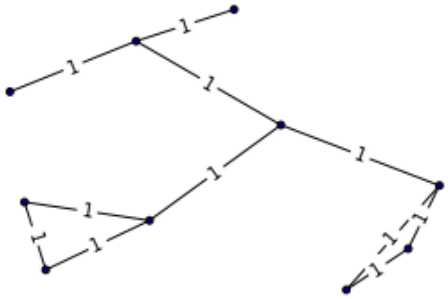


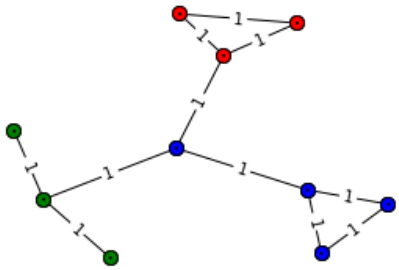
(a) Spectral clustering (b) Based K-means.

Figure 1: The out put of algorithms for 2 clusters on G.

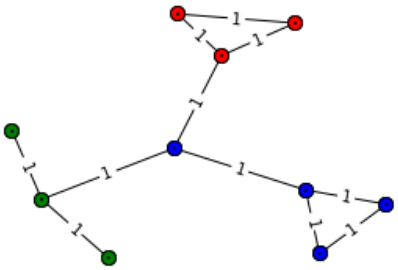
```
G=nx.Graph()
G.add_edge(1,2,weight=4)
G.add_edge(2,3,weight=4)
G.add_edge(3,4,weight=4)
G.add_edge(4,5,weight=4)
G.add_edge(5,1,weight=4)
G.add_edge(0,6,weight=4)
G.add_edge(6,7,weight=4)
G.add_edge(7,8,weight=4)
G.add_edge(8,9,weight=4)
G.add_edge(9,0,weight=4)
G.add_edge(1,0,weight=.1)
G.add_edge(2,6,weight=.1)
G.add_edge(3,7,weight=.1)
G.add_edge(4,8,weight=.1)
G.add_edge(5,9,weight=.1)
```



(a) A graph G



(b) K-means



(c) Spectral clustering

Figure 2: The out put of algorithms for 3 clusters on G .

```
G=nx.Graph()
G.add_edge(0,1,weight=1)
G.add_edge(0,2,weight=1)
G.add_edge(2,4,weight=1)
G.add_edge(2,5,weight=1)
G.add_edge(0,3,weight=1)
G.add_edge(6,3,weight=1)
G.add_edge(7,3,weight=1)
G.add_edge(8,1,weight=1)
G.add_edge(9,1,weight=1)
G.add_edge(9,8,weight=1)
G.add_edge(6,7,weight=1)
```