

## ▼ Librarys Import

```
#Import librarys
import networkx as nx
import matplotlib.pyplot as plt
```

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## ▼ Creating Methods

### ▼ Method to calculate the Average Degree of a Network.

```
#Method for calculating the Average Degree of the Network G.
def AverageDegree(G):
    return sum([G.degree(n) for n in G.nodes()])/len(G.degree)
```

### ▼ Method for plotting the degree distribution of a Network

```
#Plot the degree distribution of the network G.
def PlotDegree(G):
    degrees = [G.degree(n) for n in G.nodes()]
    plt.hist(degrees)
    plt.show()
```

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## ▼ Importing data from a .tsv file

```
#Open and extract the network edge list from the tsv file.
fh=open("/content/net1000-005 - net1000-005.tsv", 'rb')
G=nx.read_edgelist(fh)
fh.close()
```

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(a) What is the average degree of this network?

```
#Average Degree calculated by the AverageDegree method  
print('The Average Degree of the G network is:{}'.format(AverageDegree(G)))
```

The Average Degree of the G network is:49.686

(b) Plot the degree distribution of the network.

```
#Plot using the method PlotDegree  
PlotDegree(G)
```



