CGPA

June 14, 2018

In [1]:
```
import pandas as pd
import numpy as np
```

In [2]:
```
marks = pd.read_csv('marks.csv', delimiter = ",")
marks['CD_Total'] = marks['CD_Mid'] + marks['CD_End']
marks['Mean'] = np.mean(marks['CD_Total'])
marks['SD'] = np.sqrt(np.mean(abs(marks['CD_Total'] - marks['Mean'])**2))

#Calculate Z = (Total-Mean)/SD
marks['Z'] = ((marks['CD_Total'] - marks['Mean'])/marks['SD'])

Low_Z = [1.5, 1.0, 0.5, 0.0 , -0.5, -1.0, -1.5, -100]
Upp_Z = [100, 1.5, 1.0, 0.5, 0.0, -0.5, -1.0, -1.5]
Grade = [10, 9, 8, 7, 6, 5, 4, 'F']

Points = []

for index, row in marks.iterrows():
    for i in xrange(0, 8):
        if row['Z'] <= Upp_Z[i] and row['Z'] > Low_Z[i]:
            Points.append(Grade[i])
            break

marks['G'] = Points
marks.to_csv('Grades.csv', sep = ',', index = False)
```