# How graph was created:

* First, a list of 100 students was created. Then another list was created which was assigned a specific section whose indices represent the student and section at that position represent his class and section. This was idea for labelling.
* To keep randomness, I used random function to assign between 4 and 5.
* The classify\_students function assigned sections to students using the method mentioned above. Also, I created dictionary whose keys are classes and sections and values are list.
* To create friendship network, I maintained a list of students who meet friendship criteria and choose randomly from that list if it is not the same candidate.
* In the candidates list, students are added on certain probabilities in which highest probability was for friend of friends case.
* I kept the total friendship bonds to be between 950 to 1050 as it had more realistic results when I did DFS. Any value greater than 1050 resulted in group sizes of 200 to as far as 700 which is unrealistic.

# Analyzing Friends group:Observations:

* The total groups were always between 520-590 .
* The largest group had around 50-90 students with sudden rise to above 150 after every 10-15 runs. Whereas the smallest group size was 1 always.

# Shortest path insights:

* The shortest path gave how each student is related to one other while also giving their strength.