ASSIGNMENT 1

Assignment on List and Tuples

[51]:
```
# Student marks data
student_marks = [
    ['Name', ['A', 'B', 'C', 'D', 'E']],
    ['Ankit', [41, 34, 45, 55, 63]],
    ['Aravind', [42, 23, 34, 44, 53]],
    ['Lakshay', [32, 23, 13, 54, 67]],
    ['Gyan', [23, 82, 23, 63, 34]],
    ['Pranav', [21, 23, 25, 56, 56]]
]
```

[4]:
```
# Separate header and data
subjects = student_marks[0][1]
data = student_marks[1:]
```

[9]:
```
# Question 1: Who scored the highest marks in subject B?
subject_b_index = subjects.index('B')
highest_in_b = max(data, key=lambda x: x[1][subject_b_index])
print(f" Highest marks scored in subject B: {highest_in_b[0]} with {highest_in_b[1][subject_b_index]} marks.")
```

```
 Highest marks scored in subject B: Gyan with 82 marks.
```

[11]:
```
# Question 3: Who scored the highest percentage of marks?
total_percents = {student[0]: sum(student[1]) / (len(subjects) * 100) * 100 for student in data}
highest_percent_student = max(total_percents.items(), key=lambda x: x[1])
print(f" Highest overall percentage of marks: {highest_percent_student[0]} with {highest_percent_student[1]:.2f
```

```
 Highest overall percentage of marks: Ankit with 47.60%
```

[12]:
```
# Question 4: Who scored the highest percentage if only top 4 subjects are considered?
top4_percents = {}
for student in data:
    top4_sum = sum(sorted(student[1], reverse=True)[:4])
    top4_percents[student[0]] = top4_sum / (4 * 100) * 100

highest_top4_student = max(top4_percents.items(), key=lambda x: x[1])
print(f" Highest percentage (top 4 subjects only): {highest_top4_student[0]} with {highest_top4_student[1]:.2f}%
```

```
 Highest percentage (top 4 subjects only): Ankit with 51.00%
```