

# ASSIGNMENT 01

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In [1]: # Student marks data
students = [
    ("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])
]

subjects = ['A', 'B', 'C', 'D', 'E']
```

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In [6]: students
```

```
Out[6]: [('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])]
```

```
In [7]: subjects
```

```
Out[7]: ['A', 'B', 'C', 'D', 'E']
```

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In [10]: # WHO SCORED THE HIGHEST MARKS IN THE SUBJECT B????
b_index = subjects.index('B')
topper_b = ''
max_b = -1

for name, marks in students:
    if marks[b_index] > max_b:
        max_b = marks[b_index]
        topper_b = name

print("Highest marks in subject B:", topper_b, max_b)
```

Highest marks in subject B: Gyan 82

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In [13]: # WHAT IS THE AVERAGE MARKS SCORED IN THE SUBJECT C???
c_index = subjects.index('C')
total_c = sum(marks[c_index] for name, marks in students)
avg_c = total_c / len(students)
avg_marks = round(avg_c)
print("Average marks in subject C:", avg_marks)
```

Average marks in subject C: 28

```
In [19]: # WHO SCORED THE HIGHEST PERCENTAGE OF MARKS???
topper_all = ''
highest_percent = 0

for name, marks in students:
    percent = (sum(marks) / 500) * 100
    if percent > highest_percent:
        highest_percent = percent
        topper_all = name
        highest_percentage = round(highest_percent)
print("Topper overall:", topper_all, "with", highest_percentage, "%")
```

Topper overall: Ankit with 48 %

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In [18]: #IF CONSIDERED ONLY TOP 4 SUBJECTS OF A CANDIDATE,
#THEN WHO SCORED THE HIGHEST PERCENTAGE PERCENTAGE OF MARKS???
topper_top4 = ''
highest_top4_percent = 0
```

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for name, marks in students:
    top4_total = sum(sorted(marks, reverse=True)[:4])
    percent_top4 = (top4_total / 400) * 100
    if percent_top4 > highest_top4_percent:
        highest_top4_percent = percent_top4
        topper_top4 = name
        highest_top4 = round(highest_top4_percent)
print("Topper by top 4 subjects:", topper_top4, "with", highest_top4 , "%")
```

Topper by top 4 subjects: Ankit with 51 %

In [ ]:

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