# Assignment Based on List

## Exercise 1: Reverse a list in Python

```
C:\Users\ACER\PycharmProjects\pythonProject1\venv\Scripts\python.exe C:\Users\ACER\PycharmProjects\pythonProject1\main.py
[10, 9, 8, 7, 6, 5, 4, 3, 2, 1]

Process finished with exit code 0
```

## Exercise 2: Concatenate two lists

```
C:\Users\ACER\PycharmProjects\pythonProject1\venv\Scripts\python.exe C:\Users\ACER\PycharmProjects\pythonProject1\main.py
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

Process finished with exit code 0
```

## Exercise 3: Turn every item of a list into its square

```
C:\Users\ACER\PycharmProjects\pythonProject1\venv\Scripts\python.exe C:\Users\ACER\PycharmProjects\pythonProject1\main.py
[1, 4, 9, 16, 25]

Process finished with exit code 0
```

## Exercise 4: Replace list's item with new value if found

```
C:\Users\ACER\PycharmProjects\pythonProject1\venv\Scripts\python.exe C:\Users\ACER\PycharmProjects\pythonProject1\main.py
['Shardul', 'Rohit', 'Rahul', 'Virat', 'Pant']

Process finished with exit code 0
```

- You have given a Python list. Write a program to find value 20 in the list, and if it is present, replace it with 200. Only update the first occurrence of an item.

```
C:\Users\ACER\PycharmProjects\pythonProject1\venv\Scripts\python.exe C:\Users\ACER\PycharmProjects\pythonProject1\main.py
[10, 200, 30, 40, 20, 50]

Process finished with exit code 0
```

- Read the entire task carefully and help Sam to maintain students marks as per instructions given by the Principal.
1. Create a list with name **Marks** to store marks of 10 students for teacher Sam.
2. Add 10 entries in to Marks list.
3. Sam, forgot to add marks for 5 students, so add 5 students marks in the middle of list.
4. Principal ask Sam to add another 5 students marks at end of list.
5. Principal wants to get the total number of students appear for exam.

6.  By mistake Sam enter wrong marks for student whose marks store at
    position 2 in the list, so sam has to correct it by changing its value to 75.
7.   Principal wants to get marks of last 5 students.
8.  Vice Principal wants to know marks of 2nd last student.
9.  Sam wants to give grace of 2 marks to all students.
10. Sam has created another list with name **Marks1** to store marks of 5
    students, who appear for exam on second day
11. Principal ask sam to combine both list.
12. Now principal ask to remove newly added marks in old list.
13. Principal wants sam to arrange all marks in ascending order.
14. Principal wants sam to find highest marks score by student.
15. Principal wants sam to create backup for list Marks1.

```
C:\Users\ACER\PycharmProjects\pythonProject1\venv\Scripts\python.exe C:\Users\ACER\PycharmProjects\pythonProject1\main.py
[10, 20, 30, 40, 50, 15, 25, 35, 45, 55]
[10, 20, 30, 40, 50, 15, 25, 35, 45, 55, 85, 92, 78, 88, 95, 82, 90, 87, 91, 84]
[10, 20, 30, 40, 50, 15, 25, 35, 45, 55, 80, 83, 89, 86, 93, 85, 92, 78, 88, 95, 82, 90, 87, 91, 84]
[10, 20, 30, 40, 50, 15, 25, 35, 45, 55, 80, 83, 89, 86, 93, 85, 92, 78, 88, 95, 82, 90, 87, 91, 84, 79, 81, 77, 94, 96]
Total number of students:  30
[10, 75, 30, 40, 50, 15, 25, 35, 45, 55, 80, 83, 89, 86, 93, 85, 92, 78, 88, 95, 82, 90, 87, 91, 84, 79, 81, 77, 94, 96]
Marks of the last 5 students:  [79, 81, 77, 94, 96]
Marks of the 2nd last student:  94
[12, 77, 32, 42, 52, 17, 27, 37, 47, 57, 82, 85, 91, 88, 95, 87, 94, 80, 90, 97, 84, 92, 89, 93, 86, 81, 83, 79, 96, 98]
[73, 70, 76, 72, 74]
[12, 77, 32, 42, 52, 17, 27, 37, 47, 57, 82, 85, 91, 88, 95, 87, 94, 80, 90, 97, 84, 92, 89, 93, 86, 81, 83, 79, 96, 98, 73, 70, 76, 72, 74]
[12, 77, 32, 42, 52, 17, 27, 37, 47, 57, 82, 85, 91, 88, 95, 87, 94, 80, 90, 97, 84, 92, 89, 93, 86, 81, 83, 79, 96, 98]
[12, 17, 27, 32, 37, 42, 47, 52, 57, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98]
Highest marks scored:  98
[12, 17, 27, 32, 37, 42, 47, 52, 57, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98]

Process finished with exit code 0
```