

## Assignment number 1 (intro to programming):

1. Write a program to find a maximum and a minimum of three numbers or if the numbers are equal to each other, find if the given number is positive or negative. EX : input :6,2,8 , output: minimum is 2 and maximum 8 ,  
EX : input :1,1,1 , output: the num is 1.
2. Write a program to ask from the user to write a word to check if it contains a vowel character or not. In case having a vowel character print its position.  
Ex: input "car" output : there is "a" (vowel character) in index 1.
3. Write a program to display the last digit of a number  
EX: number =145678 output => 8
4. Write a program to accept number from user and find if the number is divisible by 2 and 3 both.
5. Write a program to accept the following from the user and calculate the percentage of class attended, if the percentage is less than 75, then student will not be able to sit in exam:
  - Total number of working days
  - Total number of days for absent
6. Given a string, write a python program that convert the string based on the following conditions:
  - If lower case letter less than upper case letter convert string to upper case EX: AAAa → AAAA
  - If upper case letter less than lower case letter convert string to lower case EX: aaaA → aaaa
7. Write a program to accept number from the user and check if the given number is palindrome(ex:12321) or Armstrong(ex: 153 (13+53+33=1+125+27=153)) or not.
8. Write a program to accept number from the user and convert it to words
  - EX: 124 → One hundred and twenty-four. (Bonus)

9. Write a program to find the sum of the following series:  
 $1 + 4 - 9 + 16 - 25 + 36 \dots n \text{ terms}$ , note the input is  $n$ ; for example input: 5,  
output :  $1 + 4 - 9 + 16 - 25 = -13$ .
10. Write a program to count number of "car" word in a string accepted from user and the positions of them. Ex: input: the car is red, output: the word car in position 2 in the text.
11. Write a program that ask user to enter input (text or number or number with text):
- In case the input is number get the summation of its digits.Ex:  $123 \rightarrow 6$
  - In case the input is text remove the spaces. Ex: the car  $\rightarrow$  thecar
  - In case number with text split them, number and text each individually.  
Ex: 23 st  $\rightarrow$  [12] [st]
12. Write a Python program to calculate the average value of the numbers in a given tuple of tuples.  
Original Tuple:  
 $((10, 10, 10, 12), (30, 45, 56, 45), (81, 80, 39, 32), (1, 2, 3, 4))$   
Average value of the numbers of the said tuple of tuples:  
[30.5, 34.25, 27.0, 23.25]
13. Write a Python program to check if a list is empty or not. if not, sort it in increasing order.
14. Write a Python program to print the numbers of a specified list after removing even numbers from it. Ex: Input : list = [4, 6, 3, 7], K = 2 Output : [3,7]
15. Write a Python program to extract elements with Frequency greater than element K. Ex: Input : test\_list = [4, 6, 4, 3, 3, 4, 3, 4, 6, 6], K = 2 Output : [4, 3, 6]
16. Write a Python program to Sort Dictionary key and values List.EX: Input : {'c': [3], 'b': [12, 10], 'a': [19, 4]} Output : {'a': [4, 19], 'b': [10, 12], 'c': [3]}
17. Write a Python program to create a dictionary that stores the names of 3 students, each student has another dictionary with their 'age' and 'grades'. Allow editing of a student's age or grades. The user should choose which student to edit, and then either update the age or modify the list of grades.

EX: the dictionary looks like → students = { 'Alice': {'age': 20, 'grades': [85, 90, 92]}, 'Bob': {'age': 21, 'grades': [75, 80, 78]}, 'Charlie': {'age': 19, 'grades': [95, 97, 93]} }