

**Sarvajanik College of Engineering and Technology
MCA Department**

**Subject Code: MTCA23205
Subject Name: Python Programming and Data Science
(Functions)**

**Practical Lab Assignment 1
(Functions)**

Strictly solve self to learn each concept taught in class

Write programs in python for the following:

- 1.** Write a program to print "Hello World" using function.
- 2.** Write a program to add two numbers and print the result.
- 3.** Write a program to add two numbers and print the result using function.
- 4.** Write a program to add two numbers and return the result using function.
- 5.** Write a program to add, subtract, multiply and divide two numbers and print the result.
- 6.** Write a program to add, subtract, multiply and divide two numbers using function and return the result.
- 7.** Write a function to add, subtract, multiply and divide two numbers using function and return the result in list.
- 8.** Write a function to find even numbers and return a list.
- 9.** Write a function to find odd numbers and return a list.
- 10.** Write a function to find prime numbers and return a list.
- 11.** Write a function inside another function.
- 12.** Write a program to pass function as a parameter. Hint write a function, which returns a string 'How are you?' Pass this function, as a parameter to another function that prints Hi, How are you?
- 13.** Write a function to find the maximum of three numbers.
- 14.** Write a function to multiply all the numbers in a list. (Numbers can be negative, positive or zero).

- 15.** Write a function to calculate the factorial of a number. The function accepts the number as an argument.
- 16.** Write a function that takes a list and returns a new list with distinct elements from the first list.
- 17.** Write a function to find the largest item from a given list.
- 18.** Write a function to accept variable length arguments and return sum of all the arguments.
- 19.** Keyword Argument Printer

Your assignment is to write a Python function named `print_key_value_pairs` that accepts a variable number of keyword arguments and prints their key-value pairs on the console. Follow the instructions below:

1. Implement the function `print_key_value_pairs` that takes any number of keyword arguments.
2. Inside the function, iterate through the key-value pairs of the provided keyword arguments and print them in the format "key: value".
3. Test your function using the provided examples and create additional test cases to ensure its correctness.

- 20.** Employee Information System

Your task is to create a Python program for managing employee information. I want you to implement a function called `display_employee_info` with the following requirements:

1. Create a function named `display_employee_info` that takes the employee's name, position, department, and salary as inputs.
 2. Make sure to set default values for the position, department, and salary parameters.
 3. Write the function to return a formatted string containing the employee's information.
 4. Provide examples demonstrating the use of the function with various argument combinations.
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- 21.** Write a function to modify global variable, the modified value of global variable should be available outside the function.
 - 22.** Write a function to accept a list and return sum and average to the elements of the list. Create a list by taking input at one time using delimiter.
 - 23.** Write a recursive function to find n fibonacci series, take n as input and pass to the function. Call the function for 3 different numbers and print the result.

- 24** Write a recursive function to calculate power of a given number. Input number and power, call the function and print the result.
- 25** Write a recursive function to calculate factorial of a number. Call the function for 3 different values and print the result.
- 26** Write a recursive function to calculate sum of even numbers. Input n call the recursive function and print the result.
- 27** Use globals() function to get the value of two global variables namely a and b.