PYTHON – WORKSHEET 1

Q1 to Q8 have only one correct answer. Choose the correct option to answer your question.

1. Which of the following operators is used to calculate remainder in a division?
   A) # B) & C) % D) $
2. In python 2//3 is equal to?
   A) 0.666 B) 0 C) 1 D) 0.67
3. In python, 6<<2 is equal to?
   A) 36 B) 10 C) 24 D) 45
4. In python, 6&2 will give which of the following as output?
   A) 2 B) True C) False D) 0
5. In python, 6|2 will give which of the following as output?
   A) 2 B) 4 C) 0 D) 6
6. What does the finally keyword denotes in python?
   A) It is used to mark the end of the code
   B) It encloses the lines of code which will be executed if any error occurs while executing the lines of code in the try block.
   C) the finally block will be executed no matter if the try block raises an error or not.
   D) None of the above
7. What does raise keyword is used for in python?
   A) It is used to raise an exception. B) It is used to define lambda function
   C) it's not a keyword in python. D) None of the above
8. Which of the following is a common use case of yield keyword in python?
   A) in defining an iterator B) while defining a lambda function
   C) in defining a generator D) in for loop.

Q9 and Q10 have multiple correct answers. Choose all the correct options to answer your question.

9. Which of the following are the valid variable names?
   A) _abc B) 1abc
   C) abc2 D) None of the above
10. Which of the following are the keywords in python?
    A) yield B) raise C) look-in D) all of the above

Q11 to Q15 are programming questions. Answer them in Jupyter Notebook.

11. Write a python program to find the factorial of a number.

```
# Take input from the user
number = int(input("Enter a number: "))

# Initialize the factorial to 1
factorial = 1

# Check if the number is negative, zero or positive
if number < 0:
   print("Factorial does not exist for negative numbers")
elif number == 0:
   print("Factorial of 0 is 1")
else:
   # Calculate the factorial
   for i in range(1,number + 1):
       factorial = factorial*i
   print("Factorial of", number, "is", factorial)
```

```
Enter a number: 0
Factorial of 0 is 1
```

12. Write a python program to find whether a number is prime or composite.

```python
# Take input from the user
number = int(input("Enter a number: "))

# Check if the number is prime or composite
if number > 1:
    # Check for factors
    for i in range(2, number):
        if (num % i) == 0:
            print(number, "is composite")
            break
    else:
        print(number, "is prime")
else:
    print(number, "is neither prime nor composite")
```

```
Enter a number: -8
-8 is neither prime nor composite
```

13. Write a python program to check whether a given string is palindrome or not.

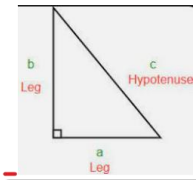
```python
# Take input from the user
string = input("Enter a string: ")

# Reverse the string
reverse_string = string[::-1]

# Check if the string is equal to its reverse
if string == reverse_string:
    print(string, "is a palindrome")
else:
    print(string, "is not a palindrome")
```

```
Enter a string: bob
bob is a palindrome
```

14. Write a Python program to get the third side of right-angled triangle from two given sides.




```python
import math

# Get the lengths of the two legs from the user
a = float(input("Enter the length of the first leg: "))
b = float(input("Enter the length of the second leg: "))

# Calculate the length of the hypotenuse using the Pythagorean theorem
c = math.sqrt(a**2 + b**2)

# Print the result
print("The length of the hypotenuse is:", c)
```

```
Enter the length of the first leg: 4
Enter the length of the second leg: 3
The length of the hypotenuse is: 5.0
```

15. Write a python program to print the frequency of each of the characters present in a given string

```python
# Get the input string from the user
string = input("Enter a string: ")

# Create an empty dictionary to store the character frequencies
freq_dict = {}

# Loop over each character in the string
for i in string:
    # If the character is already in the dictionary, increment its frequency
    if i in freq_dict:
        freq_dict[i] += 1
    # Otherwise, add the character to the dictionary with a frequency of 1
    else:
        freq_dict[i] = 1

# Print the character frequencies
for i, freq in freq_dict.items():
    print(i, ":", freq)


```

```
Enter a string: vivaan
v : 2
i : 1
a : 2
n : 1
```