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.

```python
num = int(input("Enter a number: "))

factorial = 1

if num < 0:

    print(" Factorial does not exist for negative numbers")

elif num == 0:

    print("The factorial of 0 is 1")

else:

    for i in range(1,num + 1):

        factorial = factorial*i
```

```python
    print("The factorial of",num,"is",factorial)
```

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

```python
def PrimeChecker(a):
    # Checking that given number is more than 1
    if a > 1:
        # Iterating over the given number with for loop
        for j in range(2, int(a/2) + 1):
            # If the given number is divisible or not
            if (a % j) == 0:
                print(a, "is not a prime number")
                break
        # Else it is a prime number
        else:
            print(a, "is a prime number")
    # If the given number is 1
    else:
        print(a, "is not a prime number")
# Taking an input number from the user
a = int(input("Enter an input number:"))
# Printing result
PrimeChecker(a)
```

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

```python
def isPalindrome(str):

    # Run loop from 0 to len/2
    for i in range(0, int(len(str)/2)):
        if str[i] != str[len(str)-i-1]:
            return False
    return True

# main function
s = "malayalam"
ans = isPalindrome(s)

if (ans):
    print("Yes")
else:
    print("No")
```

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

```python
def pythagoras(opposite_side,adjacent_side,hypotenuse):
    if opposite_side == str("x"):
        return ("Opposite = " + str(((hypotenuse*2) - (adjacent_side2))*0.5))
    elif adjacent_side == str("x"):
        return ("Adjacent = " + str(((hypotenuse*2) - (opposite_side2))*0.5))
```

```python
        elif hypotenuse == str("x"):
            return ("Hypotenuse = " + str(((opposite_side*2) + (adjacent_side2))*0.5))
        else:
            return "You know the answer!"

print(pythagoras(3,4,'x'))
print(pythagoras(3,'x',5))
print(pythagoras('x',4,5))
print(pythagoras(3,4,5))
```

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

```python
rom collections import Counter

# Given string
strA = "timeofeffort"
print("Given String: ",strA)
# Using counter
res = {}

for keys in strA:
    res[keys] = res.get(keys, 0) + 1

# Result
print("Frequency of each character :\n ",res)
```