PYTHON – WORKSHEET 1

WORKSHEET

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.

Answer:

```
def factorial_iterative(n):
    if n < 0:
        return "Factorial is not defined for negative numbers."
    result = 1
    for i in range (1, n + 1):
        result *= i
    return result
```

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

Answer:

```
def is_prime(n):
    "Return True if n is a prime number, else False."
    if n <= 1:
        return False
    if n <= 3:
        return True
    if n % 2 == 0 or n % 3 == 0:
        return False
    i = 5
    while i * i <= n:
        if n % i == 0 or n % (i + 2) == 0:
            return False
        i += 6
    return True
def check_number(n):
    """Check if the number is prime or composite."""
    if n <= 1:
        return "Neither prime nor composite"
    if is_prime(n):
        return "Prime"
```

```
    else:
        return "Composite"
```

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

Answer:

```
def is_palindrome(s):
    """Check if the string s is a palindrome."""
    # Convert the string to lowercase and remove spaces for case-insensitive comparison
    s = s.lower( ).replace(" ", " ")
    # Compare the string with its reverse
    return s == s[::-1]
```

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

Answer:

```
    def find_third_side(side1, side2, is_hypotenuse=False):
    """Find the third side of a right-angled triangle."""
    if is_hypotenuse:
        # Given hypotenuse and one leg, find the other leg
        if side1 <= 0 or side2 <= 0:
            return "Side lengths must be positive."
        return math.sqrt(side1**2 - side2**2)
    else:
        # Given two legs, find the hypotenuse
        if side1 <= 0 or side2 <= 0:
            return "Side lengths must be positive."
        return math.sqrt(side1**2 + side2**2)
```

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

Answer:

```
from collections import Counter
def print_char_frequencies(s):
   frequency = Counter(s)
 for char, count in frequency. Items():
       print(f"Character '{char}': {count}")
```