1. Which of the following operators is used to calculate remainder in a division?

Ans. C) %

2. In python 2//3 is equal to?

Ans. B) 0

3. In python, 6<<2 is equal to?

C) 24

4. In python, 6&2 will give which of the following as output?

A) 2

5. In python, 6|2 will give which of the following as output?

D) 6

6. What does the finally keyword denotes in python?

C) The finally block will be executed no matter if the try block raises an error or not.

7. What does raise keyword is used for in python?

A) It is used to raise an exception.

8. Which of the following is a common use case of yield keyword in python?

C) in defining a generator

9. Which of the following are the valid variable names?

Ans.(A) and (b)

10. Which of the following are the keywords in python?

Ans. D) all of the above

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

Ans.
```
def factorial(n):
    if n == 0 or n == 1:
        return 1
    else:
        return n * factorial(n-1)

num = int(input("Enter a number to calculate its factorial: "))
 if num < 0:
    print("Factorial is not defined for negative numbers.")
else:
    fact = factorial(num)
    print(f"The factorial of {num} is: {fact}")
```

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

```
def is_prime(num):
        if num <= 1:
        return False  # Numbers less than or equal to 1 are not prime

        for i in range(2, int(num**0.5) + 1):
        if num % i == 0:
```

```
            return False  # Found a factor other than 1 and itself, hence not prime

    return True  # If no factors other than 1 and itself, then prime
```

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

```
def is_palindrome(s):
        s = s.replace(" ", "").lower()
        return s == s[::-1]

string = input("Enter a string to check if it is a palindrome: ")

if is_palindrome(string):
    print(f"{string} is a palindrome.")
else:
    print(f"{string} is not a palindrome.")
```

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

```
def find_hypotenuse(side1, side2):
    hypotenuse = (side1 ** 2 + side2 ** 2) ** 0.5
    return hypotenuse
side1 = float(input("Enter the length of first side of the triangle: "))
side2 = float(input("Enter the length of second side of the triangle: "))

hypotenuse = find_hypotenuse(side1, side2)
```

```
print(f"The length of the hypotenuse (third side) of the right-angled triangle is: {hypotenuse}")
```

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

```
def character_frequency(s):
    freq = {}

    for char in s:
        freq[char] = freq.get(char, 0) + 1

    return freq

string = input("Enter a string to find the frequency of each character: ")

frequency = character_frequency(string)

print("Character frequencies:")
for char, freq in frequency.items():
    print(f"Character '{char}' occurs {freq} time(s)")
```