# PYTHON – WORKSHEET 1

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

Ans: %

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

Ans: 1

3. In python, 6<

Ans: 24

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

Ans: 2

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

Ans: 6

6. What does the finally keyword denotes in python?

Ans: 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?

Ans: It is used to raise an exception

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

Ans: in defining a generator

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

Ans: A) _abc  C) abc2

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

Ans: A) yield B) raise

# Write a python program to find the factorial of a number

In [1]:
```python
def factorial(n):
    if n < 0:
        return "Factorial is not defined for negative numbers."
    elif n == 0 or n == 1:
        return 1
    else:
        result = 1
        for i in range(2, n+1):
            result *= i
        return result
```

In [2]:
```python
number = int(input("Enter a number: "))
factorial_result = factorial(number)
print(f"The factorial of {number} is {factorial_result}.")
```

```
Enter a number: 5
The factorial of 5 is 120.
```

# python program to find whether a number is prime or composite

In [5]:
```python
def is_prime(number):
    if number <= 1:
        return False

    for i in range(2, int(number ** 0.5) + 1):
        if number % i == 0:
            return False

    return True
```

In [4]:
```python
number = int(input("Enter a number: "))
if is_prime(number):
    print(f"{number} is a prime number.")
else:
    print(f"{number} is a composite number.")
```

```
Enter a number: 2
2 is a prime number.
```

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

In [6]:
```python
def is_palindrome(string):
    string = string.replace(" ", "").lower()
    return string == string[::-1]
```

In [7]:
```python
input_string = input("Enter a string: ")
if is_palindrome(input_string):
    print(f"The string '{input_string}' is a palindrome.")
else:
    print(f"The string '{input_string}' is not a palindrome.")
```

```
Enter a string: jainam
The string 'jainam' is not a palindrome.
```

# Python program to get the third side of right-angled triangle from two given sides

In [12]:
```python
import math

def calculate_third_side(side1, side2):
    # Calculate the length of the third side using the Pythagorean theorem
    third_side = math.sqrt(side1**2 + side2**2)
    return third_side
```

In [13]:
```python
side1 = float(input("Enter the length of the first side: "))
side2 = float(input("Enter the length of the second side: "))

third_side = calculate_third_side(side1, side2)
print(f"The length of the third side is: {third_side:.2f}")
```

```
Enter the length of the first side: 2
Enter the length of the second side: 2
The length of the third side is: 2.83
```

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

In [14]:
```python
def character_frequency(string):
    frequency = {}
    for char in string:
        if char in frequency:
            frequency[char] += 1
        else:
            frequency[char] = 1
    return frequency
```

In [15]:
```python
input_string = input("Enter a string: ")
freq = character_frequency(input_string)
print("Character Frequency:")
for char, count in freq.items():
    print(f"{char}: {count}")
```

```
Enter a string: football
Character Frequency:
f: 1
o: 2
t: 1
b: 1
a: 1
l: 2
```

In [ ]:
```python

```