

# Pyhton Worksheet 1

Q11 : Write a python program to find the factorial of a number

```
In [21]: 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
    print("The factorial of",num,"is",factorial)
```

Enter a number: 8  
The factorial of 8 is 40320

Q12 : Write a python program to find whether a number is prime or composite

```
In [27]: n=int(input('Enter the number you want to check: '))
if n==1 or n==0:
    print('This is neither prime nor composite')
else:
    c=0
    for i in range(2,n):
        if n%i==0:
            c=c+1
    if c==0:
        print('This is a prime number.')
    else:
        print('This is a composite number.')
```

Enter the number you want to check: 6  
This is a composite number.

Q13 : Write a python program to check whether a given string is palindrome or not

```
In [29]: my_str = 'racecar'

rev_str = reversed(my_str)

if list(my_str) == list(rev_str):
    print("The string is a palindrome.")
else:
    print("The string is not a palindrome.")
```

The string is a palindrome.

Q14 : Write a Python program to get the third side of right-angled triangle from two given sides.

```
In [31]: def pythagoras(opposite_side,adjacent_side,hypotenuse):
        if opposite_side == str("x"):
            return ("Opposite = " + str(((hypotenuse**2) - (adjacent_side**2))**0.5))
        elif adjacent_side == str("x"):
            return ("Adjacent = " + str(((hypotenuse**2) - (opposite_side**2))**0.5))
        elif hypotenuse == str("x"):
            return ("Hypotenuse = " + str(((opposite_side**2) + (adjacent_side**2))**0.5))
        else:
            return "Above is the answer"

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

Hypotenuse = 5.0  
Adjacent = 4.0  
Opposite = 3.0  
Above is the answer

Q15 : Write a Python program to get the third side of right-angled triangle from two given sides.

```
In [36]: input_string = "Python"
frequencies = {}

for char in input_string:
    if char in frequencies:
        frequencies[char] += 1
    else:
        frequencies[char] = 1

# Show Output
print ("Per char frequency in '{}' is :\n {}".format(input_string, str(frequencies)))
```

Per char frequency in 'Python' is :  
{ 'P': 1, 'y': 1, 't': 1, 'h': 1, 'o': 1, 'n': 1}

In [ ]: