

**Vellore Institute of Technology**  
**Computational Statistics (CBS1009)**

**Digital Assignment 2**

**Date:** 12 September 2022

**Name:** Anuj Parihar

**Registration Number:** 21BBS0162

**Question 1:** Write python program to enter a number and check if it is a prime number. If it is prime number then print "Entered number is a prime number". If it is not prime number then find its factorial

**Code:**

```
def isPrime(n): # Function to check if a number is prime
    if n <= 1:
        return False
    for i in range(2, n):
        if n % i == 0:
            return False
    return True

def factorial(n): # Function to calculate factorial of a number
    if n == 0:
        return 1
    return n * factorial(n - 1)

print("Registration Number: 21BBS0162")
print("Name: Anuj Parihar")

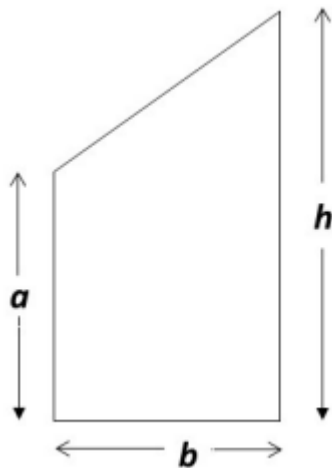
num = int(input("Enter a number: "))
if isPrime(num):
    print(num, "is a prime number")
else:
    print(num, "is not a prime number")
    print("Factorial of", num, "is", factorial(num))
```

**Output:**

```
❌ Bear on Monday at 2:46 PM
❏ { ❏ E:易VIT易computationalstats易DA2 } ❏ python q1.py
Enter a number: 4
Name: Anuj Parihar
Enter a number: 23
23 is a prime number

❌ Bear on Monday at 2:48 PM
❏ { ❏ E:易VIT易computationalstats易DA2 } ❏ python q1.py
Registration Number: 21BBS0162
Name: Anuj Parihar
Enter a number: 4
4 is not a prime number
Factorial of 4 is 24
```

**Question 2:** Write a python program to find the area of the following



**Code:**

```
print("Registration Number: 21BBS0162")
print("Name: Anuj Parihar")

a = int(input("Enter a: "))
h = int(input("Enter h: "))
b = int(input("Enter b: "))
area = (a + b) * h / 2
print("Area of trapezium is", area)
```

**Output:**

```
📧 Bear on Monday at 2:50 PM
📧 { 📧 E:易 VIT易 computationalstats易 DA2 } 📧 python q2.py
Registration Number: 21BBS0162
Name: Anuj Parihar
Enter a: 2
Enter h: 3
Enter b: 4
Area of trapezium is 9.0
```

**Question 3:** Write a python program to find the sum of series:

$$\frac{1}{1^2} + \frac{1}{2^2} + \frac{1}{3^2} + \dots + \frac{1}{N^2}$$

**Code:**

```
print("Registration Number: 21BBS0162")
print("Name: Anuj Parihar")

def sum(n): # Function to calculate sum of 1/n^2 series
    if n == 1:
        return 1
    return 1/n**2 + sum(n-1)

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

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**Output:**

```
❌ Bear on Monday at 2:50 PM
❌ { ❌ E:易 VIT易 computationalstats易 DA2 } ❌ python q3.py
Registration Number: 21BBS0162
Name: Anuj Parihar
Enter a number: 3
1.3611111111111112

❌ Bear on Monday at 2:52 PM
❌ { ❌ E:易 VIT易 computationalstats易 DA2 } ❌ python q3.py
Registration Number: 21BBS0162
Name: Anuj Parihar
Enter a number: 2
1.25
```

**Question 4:** Write python program to find nth root of a number

**Code:**

```
print("Registration Number: 21BBS0162")
print("Name: Anuj Parihar")

def nthroot(n, a): # Function to calculate nth root of a number
    if n == 1:
        return a
    return a**(1/n)

num = int(input("Enter a number: "))
n = int(input("Enter n: "))
print(nthroot(n, num))
```

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**Output:**

```
❌ Bear on Monday at 2:52 PM
❌ { ❌ E:易 VIT易 computationalstats易 DA2 } ❌ python q4.py
Registration Number: 21BBS0162
Name: Anuj Parihar
Enter a number: 25
Enter n: 1
25

❌ Bear on Monday at 2:53 PM
❌ { ❌ E:易 VIT易 computationalstats易 DA2 } ❌ python q4.py
Registration Number: 21BBS0162
Name: Anuj Parihar
Enter a number: 25
Enter n: 2
5.0
```