Practical 6

Aim: Functions

1) **Write a program to create a function that takes a number as a parameter and check the number is prime or not.**

Code:

```python
print("By 22IT460")
num = int(input("Enter the number: "))
def isPrime(n):
    if n == 0 or n == 1:
        return False
    for i in range(2,n):
        if n % i == 0:
            return False
    return True
if isPrime(num):
    print(f"{num} is prime")
else:
    print(f"{num} is not prime")
```

Output:

```
D:\PythonProje\venv\Scripts\python.exe D:\PythonProje\22IT460\primeFunction.py
By 22IT460
Enter the number: 131
131 is prime

Process finished with exit code 0
```

2) **Write a program to create a function that takes a list of numbers as a parameter and returns the sum of squares of all numbers.**

Code:

```python
print("By 22IT460")
list1 = eval(input("Enter the list in form of {}: "))
def sumOfSquares(l):
    sum = 0
    for i in l:
        sum += (i * i)
    return sum
print(f"Sum of the {list1} is {sumOfSquares(list1)}")
```

Output:

```
D:\PythonProje\venv\Scripts\python.exe D:\PythonProje\22IT460\sumOfSquaresFunction.py
By 22IT460
Enter the list in form of {}: {1,2,3,4,5,6,7,8,9,10}
Sum of the {1, 2, 3, 4, 5, 6, 7, 8, 9, 10} is 385

Process finished with exit code 0
```
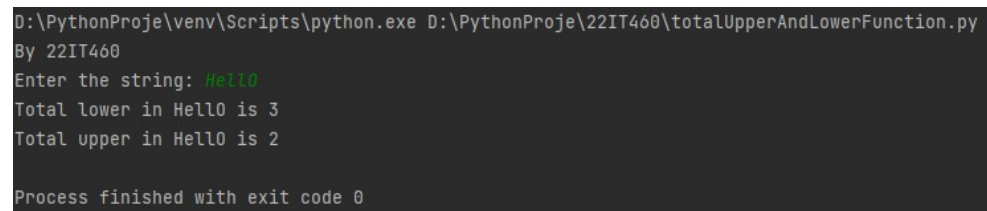
3) Write a program to calculate total upper case and lower case letter of a given string.

Code:

```
print("By 22IT460")
s = input("Enter the string: ")
def totalUpperAndLower(s):
    upper = 0
    lower = 0
    for i in s:
        if i.isalpha():
            if i.isupper():
                upper += 1
            else:
                lower += 1
    return lower,upper
totalLower,totalUpper = totalUpperAndLower(s)
print(f"Total lower in {s} is {totalLower}\nTotal upper in {s} is {totalUpper}")
```
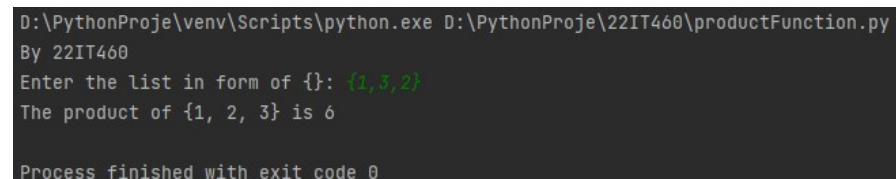
Output:

```
D:\PythonProje\venv\Scripts\python.exe D:\PythonProje\22IT460\totalUpperAndLowerFunction.py
By 22IT460
Enter the string: Hell0
Total lower in Hell0 is 3
Total upper in Hell0 is 2

Process finished with exit code 0
```

4) Write a program to create a function that takes a list of integers as a parameter and calculates the product of all the numbers.

Code:

```
print("By 22IT460")
list1 = eval(input("Enter the list in form of {}: "))
def product(l):
    prod = 1
    for i in l:
        prod *= i
    return prod
print(f"The product of {list1} is {product(list1)}")
```

Output:

```
D:\PythonProje\venv\Scripts\python.exe D:\PythonProje\22IT460\productFunction.py
By 22IT460
Enter the list in form of {}: {1,3,2}
The product of {1, 2, 3} is 6

Process finished with exit code 0
```

5) Write a program to create a function that takes two strings as parameters and checks if the first string ends with the second string.

Code:

```python
print("By 22IT460")
s1 = input("Enter the string1: ")
s2 = input("Enter the string2: ")
def endsWith(s1,s2):
    if len(s1) < len(s2):
        return False
    temp = s1[len(s1)-len(s2):len(s1)]
    for i in range(len(s2)):
        if temp[i] != s2[i]:
            return False
    return True
if endsWith(s1,s2):
    print(f"{s1} ends with {s2}")
else:
    print(f"{s1} does not ends with {s2}")
```

Output:

```
D:\PythonProje\venv\Scripts\python.exe D:\PythonProje\22IT460\endsWithFunction.py
By 22IT460
Enter the string1: Hello World
Enter the string2: World
Hello World ends with World

Process finished with exit code 0
```