Fourth Industrial Revolution (4IR) Summer School

Python **P**rogramming – **D**ay **4** exercises

Classes / Functions

- Instruction: don't perform any printing inside functions unless necessary.

Question 1 [List items multiplication]

Write a Python function to return the multiplication result of all the numbers in a list.

```
Enter numbers: 2 3 1 9 -20 10
List multiplication: -10800
```

Question 2 [Perfect Number]

A perfect number is a positive integer that is equal to the sum of its proper positive divisors, that is, the sum of its positive divisors excluding the number itself.

Example: 6 is a perfect number since it is divisible by 1, 2, 3. Sum of (1+2+3) is 6.

Write a Python function to determine whether a given number is perfect or not. Make appropriate tests by calling your function with different numbers.

```
Enter a number: 28
Perfect number
```

Question 3 [Prime Number]

A prime number is a number greater than 1 and that has no positive divisors other than 1 and itself.

Example: 5 is a prime number since it is only divisible by 1 and 5.

Write a Python function to determine whether a given number is prime or not. Make appropriate tests by calling your function with different numbers.

```
Enter a number: 47
Prime number
```

Question 4 [Circle class]

Write a Python class named Circle to handle basic circle calculations (e.g. are computation). Circle class has a radius variable and two functions to compute the area and the perimeter of a circle.

Create an object of your class Circle and test it with different input.

```
Enter radius: 10
Area = 314.0
Perimeter = 62.80
```