Exercise 3

Question 01

```
product = lambda x, y: x * y

result = product(5, 6)

print("The product of two numbers :", result)
```

```
The product of two numbers : 30
```

Question 02

```
import math

def calculate_circle_area(radius):
    return math.pi * radius**2


radius = 10

area = calculate_circle_area(radius)

print("The area of a circle with radius", radius,"is :",area)
```

```
The area of a circle with radius 10 is : 314.1592653589793
```

Question 03

```
def calculator(num1, num2, operation):
    if operation == 'a':
        return num1 + num2
    elif operation == 's':
        return num1 - num2
    elif operation == 'm':
        return num1 * num2
    elif operation == 'd':
        if num2 != 0:
            return num1 / num2
        else:
            return "Cannot divide by zero"
    else:
        return "Invalid operation"

result = calculator(2, 5, 'd')

print("Output is:",result)
```

```
Output is: 0.4
```

Question 04

```
class Rectangle:
    def __init__(self, length, width):
        self.length = length
        self.width = width

    def area(self):
        return self.length * self.width

r = Rectangle(5, 10)
print("Output is:",r.area())
```

```
Output is: 50
```

Question 05

```
class Shape:
    def __init__(self, name, length):
        self.name = name
        self.length = length

    def area(self):
        return 0

class Square(Shape):
    def __init__(self, name, length):
        super().__init__(name, length)

    def area(self):
        return self.length * self.length

    def describe(self):
        return f"This is a: {self.name}"

s = Square('square', 5)
print("The area is:")
print(s.area())
print(s.describe())
```

```
The area is:
25
This is a: square
```