Name : W.A.N Anjana Date : 2/13/2025

1.Write a lambda expression to get the productof two numbers. Run test for expression(5,6) Output:30

```
product = lambda num1 , num2: num1*num2
print(product(5,6))
```

```
30
```

2.Write a function to get the area of a circle from the radius. Hint: remember to import the right modul for being able to calculte the area of the circle. Run test for function(10) Output:314.1592653589793

```
import math
def area_of_circle(radius):
    return math.pi * radius**2
print(area_of_circle(10))
```

```
314.1592653589793
```

3.Build a simple calculator which can:add, subtract, multiply, divide. Hint: solve by writing a function that takes as argument two numbers and the operation and returns the desired output. Run test for function(2,5,'d') Output: 0.4

```
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 "Error: Division by zero"
    else:
        return "Invalid operation"

print(calculator(2, 5, 'd'))
```

```
0.4
```

4.Define a class named Rectangle which can be constructed by a length and width.The Rectangle class has a method which can compute the area. Run test for r = Rectangle(5,10) r.area() Output: 50

```
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(r.area())
```

```
50
```

5.Define a class named Shape and its subclass Square. Shapeobjects can be consrtucted by name andlengthhas an area function wich return 0Square subclass has an init function which take a length and name as argumentand has anarea method and a describe method what prints the name of the Shape. Print the area from Square class. Run test for:s = Square('square',5)print(s.area())print(s.describe()) Output: The area is: 25 This is a: square

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

    def area(self):
        return 0

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

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

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

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

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