Assignment : 3

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1 →write a lambda expression to get the product of two numbers. Run test for expression(5,6) Output:30

In [1]:
```
prod = lambda x, y : x * y
print("Output:",prod(5,6))
```

```
Output: 30
```

2 →Write a function to get the area of a circle from the radius. Hint: remember to import the right module for being able to calculate the area of the circle.

Run test for function(10) Output:314.1592653589793

In [2]:
```
import math
def get_circle_area(radius):
    area = math.pi * radius * radius
    return area

print(get_circle_area(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

In [3]:
```
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':
        return num1 / num2
    else:
        return "Invalid operation"

print("Output:",calculator(2, 5, 'd'))
```

```
Output: 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

In [4]:
```
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:",r.area())
```

```
Output: 50
```

5 →Define a class named Shape and its subclass Square. Shapeobjects can be consrtucted by name andlengthhas an area function wich return 0 Square 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

In [5]:
```
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**2
    def describe(self):
        return f"This is a: {self.name}"

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

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

In [ ]:
```
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```