Assignment 03

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1 Assignment 03

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1. Write a lambda expression to get the product of two numbers.

Run test for expression(5,6)

Output: 30

[31]:
```
expression = lambda a, b: a * b
product = expression(5,6)
print(product)
```

```
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

[22]:
```
#import the math modul
import math
#calculte the area of the circle.
def circle_area(radius):
    pi_value=math.pi
    area=radius*radius*pi_value
    print(area)
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

[23]:
```
def calculate(num_1,num_2,operation):
    #Addition
    if operation == "a":
        return num_1 + num_2
    #subtract
    elif operation == "s":
        return num_1 - num_2
    #multiply
    elif operation == "m":
        return num_1 * num_2
    #divide
    elif operation == "d":
        return num_1 / num_2
    else:
        return "Please enter valid two numbers!"

answer = calculate(2,5,"d")
print(answer)
```

```
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

[24]:
```
#Define a class named Rectangle
class Rectangle:
    def __init__(self, length, width):
        self.length = length
        self.width = width

    #compute the area
    def area(self):
        calculate_area = self.length * self.width
        print(calculate_area)
r = Rectangle(5, 10)
r.area()
```

```
50
```

5. Define a class named Shape and its subclass Square.

Shape objects can be consrtucted by name and length has an area function wich return 0

Square subclass has an init function which take a length and name as argument and has an area 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
```

[30]:
```
#Define a class named Shape
class Shape:
    def __init__(self,name,length):
        self.name = name
        self.length = length
    def area(self):
        return 0

#Define a subclass named Square.
class Square(Shape):
    def __init__ (self,name,length):
        super().__init__(name, length)
    def area(self):
        square_area = self.length ** 2
        return f"The area is: \n{square_area}"
    def describe(self):
        return f"This is a: {self.name}"

#test
s = Square('square', 5)
print(s.area())
print(s.describe())
```

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