# Assignment_3

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## 1 Assignment 3

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**Exercise 1**

[14]:
```
x = lambda num1, num2: num1 * num2

result = x(5, 6)

print(result)
```

```
30
```

**Exercise 2**

[15]:
```
import math

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

result = circle_area(10)

print(result)
```

```
314.1592653589793
```

**Exercise 3**

[16]:
```
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 "Error: Invalid operation"

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

print(result)
```

```
0.4
```

**Exercise 4**

[17]:
```
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("Area:", r.area())
```

```
Area: 50
```

**Exercise 5**

[18]:
```
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("The area is:")
print(s.area())
print(s.describe())
```

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