Assignment 3

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0.0.1 Chamithu Jayathilake

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1 Exercise 1

[3]:
```
product = lambda x, y: x * y
product(5, 6)
```

[3]:
```
30
```

2 Exercise 2

[1]:
```
from math import pi

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

result = circle_area(10)
print(result)
```

```
314.1592653589793
```

3 Exercise 3

[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':
        return num1 / num2
    else:
        return 'Error: Invalid operation'

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

```
print(result)
```

```
0.4
```

4 Exercise 4

[8]:
```
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 Exercise 5

[11]:
```
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 ** 2

    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
```

[ ]: