Assigment 3 Twe He Gam Aung

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

In [56]:
```
mul_question1 = lambda number1,number2 : number1 * number2
print("Run test for expression(5,6)")
print("Output:",mul_question1(5,6))
```

```
Run test for expression(5,6)
Output: 30
```

2.Write a function to get the area of a circle from the radius.

In [57]:
```
import math
pi = math.pi
# Formula the area of a circle
def area_of_a_circle(radius):
    return (radius**2*pi)

radius = float(input("Run test for function: "))
print("Output:",area_of_a_circle(radius))
```

```
Run test for function: 10
Output: 314.1592653589793
```

3.Build a simple calculator which can:add, subtract, multiply, divide.

In [58]:
```
# Function to multiply two numbers
def multiply(number1, number2):
    return number1 * number2

# Function to divide two numbers
def divide(number1, number2):
    if number2 == 0:
        return "Can't divide by zero"
    return number1 / number2

# Import numbers from the keyboard
number1 = float(input("Enter the first number: "))
number2 = float(input("Enter the second number: "))

# Display the calculation options
print("Please choose a calculation:")
print("1. Add")
print("2. Subtract")
print("3. Multiply")
print("4. Divide")

# Take input from the user
calculus = input("Enter the operation number (1/2/3/4): ")

if calculus == '1':
    print(number1, "+", number2, "=", number1 + number2)
elif calculus == '2':
    print(number1, "-", number2, "=", number1 - number2)
elif calculus == '3':
    print(number1, "*", number2, "=", multiply(number1, number2))
elif calculus == '4':
    result = divide(number1, number2)
    print(number1, "/", number2, "=", result)
else:
    print("Invalid operation")
```

```
Enter the first number: 2
Enter the second number: 5
Please choose a calculation:
1. Add
2. Subtract
3. Multiply
4. Divide
Enter the operation number (1/2/3/4): 4
2.0 / 5.0 = 0.4
```

1. 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.

In [59]:
```
class Rectangle:
    # Constructor of class Rectangle
    def __init__(self, length, width):
        self.length = length
        self.width = width

    # Formula for the area of a rectangle
    def area(self):
        return self.length * self.width

# Instantiate the Rectangle class
r = Rectangle(5, 10)

# Print result
print(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.

In [60]:
```
class Shape:
    # Constructor of class Shape
    def __init__(self, name, length):
        self.name = name
        self.length = length

    def area(self):
        return 0

class Square(Shape):
    # Constructor of subclass Square
    def __init__(self, name, length):
        super().__init__(name, length)  # Call to the parent class's __init__ method

    # Compute the area of the square
    def area(self):
        return self.length * self.length

    def describe(self):
        return self.name

# Sample usage
s = Square('Square', 5)
print("The area is:", s.area())
print("This is a:", s.describe())
```

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