COMPUTER SCIENCE

Assignment (03)

Created under module Python Part II

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ANSWER FOR QUESTION NUMBER (01)

In [1]:
```
product = lambda x,y: x * y
result = product(5, 6)
print(result) # Changed 'reult' to 'result'
```

```
30
```

ANSWER FOR QUESTION NUMBER (02)

In [2]:
```
import math

def c_area(radius):
    #Calculate the area of a circle
    return math.pi * radius ** 2

# Test
print(c_area(10))
```

```
314.1592653589793
```

ANSWER FOR QUESTION NUMBER (03)

In [3]:
```
def calculator(num1, num2, operation):
    if operation == '+':
        return num1 + num2
    elif operation == '-':
        return num1 - num2
    elif operation == '*':
        return num1 * num2
    elif operation == '/' or operation == 'd':  # Handle 'd' as division
        if num2 == 0:
            return "Division by zero error!"
        else:
            return num1 / num2
    else:
        return "Invalid operation"

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

```
0.4
```

ANSWER FOR QUESTION NUMBER (04)

In [4]:
```
class Rectangle:
    def __init__(self, length, width):
        self.length = length
        self.width = width

    def area(self):
        return self.length * self.width

    # The defarea function definition was not indented correctly
    # It should be at the same level as the other methods of the class
    def defarea(self):
        return self.length * self.width

r = Rectangle(5, 10)
print(r.area())
```

```
50
```

ANSWER FOR QUESTION NUMBER (05)

In [5]:
```
class Shape:  # Define the Shape class
    def __init__(self, name, length=0):  # Initialize with name and optional length
        self.name = name
        self.length = length

    def area(self):
        return 0  # Default area for Shape is 0


class Square(Shape):
    def __init__(self, name, length):
        super().__init__(name, length)  # Call the Shape constructor

    def area(self):
        return self.length * self.length

    def describe(self):
        print(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
None
```