

1. ILLUSTRATION OF FUNCTION PROGRAMMING

Develop a menu-driven program in Python using user defined functions to find the area of different shapes (Circle, Square and Rectangle).

Source Code

```
from math import pi

def AreaSquare(s):
    area = s * s
    return area

def AreaRectangle(l, b):
    area = l * b
    return area

def AreaCircle(r):
    area = pi * (r**2)
    return area

while True:
    print("=====")
    print("What would you like to do?")
    print("""
[1] Find the area of a Rectangle
[2] Find the area of a Square
[3] Find the area of a Circle
[4] Exit
""")

    ch = input("Enter your choice[1/2/3/4]: ")

    if ch == "1":
        l = int(input("Enter length of Rectangle: "))
        b = int(input("Enter breadth of Rectangle: "))
        area = AreaRectangle(l, b)
        print("Area of the Rectangle is", area)

    elif ch == "2":
        s = int(input("Enter side of Square: "))
        area = AreaSquare(s)
        print("Area of the Square is", area)
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elif ch == "3":
    s = int(input("Enter radius of Circle: "))
    area = AreaCircle(s)
    print("Area of the Circle is", area)

elif ch == "4":
    print("[ Exiting ]") # Break from the loop to exit
    break

else:
    print("[ Invalid Choice ]") # In case user inputs a choice that was n

```

OUTPUT

```

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What would you like to do?

- [1] Find the area of a Rectangle
- [2] Find the area of a Square
- [3] Find the area of a Circle
- [4] Exit

Enter your choice[1/2/3/4]: 1

Enter length of Rectangle: 2

Enter breadth of Rectangle: 3

Area of the Rectangle is 6

```

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```

What would you like to do?

- [1] Find the area of a Rectangle
- [2] Find the area of a Square
- [3] Find the area of a Circle
- [4] Exit

Enter your choice[1/2/3/4]: 2

Enter side of Square: 3

Area of the Square is 9

```

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```

What would you like to do?

- [1] Find the area of a Rectangle
- [2] Find the area of a Square
- [3] Find the area of a Circle
- [4] Exit

Enter your choice[1/2/3/4]: 3

Enter radius of Circle: 2

Area of the Circle is 12.566370614359172

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What would you like to do?

- [1] Find the area of a Rectangle
- [2] Find the area of a Square
- [3] Find the area of a Circle
- [4] Exit

Enter your choice[1/2/3/4]: 4

[Exiting]