

University of Vavuniya
Faculty of Technological studies
Department of ICT
TICT 2134 - Advanced Computer Programming (Practical)
Assignment

22.02.2023

Write a C# program to reach a following objectives.

- Create a **display_menu ()** function to display the following menus.
 - 1-calculate the area of a circle.
 - 2-calculate the area of a rectangle.
 - 3-calculate the area of a square.
 - 4-calculate the area of a triangle.
- Create a **circle ()** function to calculate the area of a circle.
 - Get the radius value from the user.
 - Return the area of a circle from the function.
- Create a **rectangle ()** function to calculate the area of a rectangle
 - Get the width and length from the user.
- Create a **square ()** function to calculate the area of a square.
 - Get the length value from the user.
- Create a **triangle ()** function to calculate the area of a triangle
 - Get the base value and perpendicular height value from the user.
 - Return the area of the rectangle from the function.
- If a user's selection is wrong, then the program needs to show an error message to the user.
- Get the user input to select the operation that is mentioned in the display menu function.
- Iterate the program according to the user's desire for the question "Do you want to run the program again?"
 - If the user types "Y", it iterates for another time from the display_menu function, else terminate the program.
- All the user inputs need to be passed as an argument to the function.
- The sample output image is attached below.

- **Hints:**

Formulas to calculate the area.

- **Circle:**
 - $A = \pi r^2$
- **Rectangle:**
 - $A = \text{width} * \text{height}$
- **Square:**
 - $A = \text{lenth}^2$
- **Triangle:**
 - $A = \frac{1}{2} * \text{base} * \text{perpendicular height.}$

```
1 : calculate the area of a circle.
2 : calculate the area of a rectangle.
3 : calculate the area of a square.
4 : calculate the area of a trianle.
Enter your choice between 1 to 4:
3
Enter the value for the length of your square:
12
Area of a square is: 144
Do you want to run this program again:
y
1 : calculate the area of a circle.
2 : calculate the area of a rectangle.
3 : calculate the area of a square.
4 : calculate the area of a trianle.
Enter your choice between 1 to 4:
6
invalid number please enter the number between 1-4
Do you want to run this program again:
y
1 : calculate the area of a circle.
2 : calculate the area of a rectangle.
3 : calculate the area of a square.
4 : calculate the area of a trianle.
Enter your choice between 1 to 4:
1
Enter the radius value:
14
Area of a circle is: 615.44
Do you want to run this program again:
n
Thank you..have a nice day!
```

Figure 1:sample output