MINI PROJECT

Area calculator

Abstract for Area calculator project

Area Calculator is a basic program in C language which is majorly based on switch case operator . This programm is used to calculate area of 2D figures like Circle,Semicircle,Rectangle,Triangle,Square,Parallelogram,Trapezium and Rhombus . This can be used easily. Program asks for a particular value that is required for calculating area (for example value required for calculating area of circle is radius).In this program each numerical value is assigned for each 2D figures.By opening the program user is asked to enter desired code of 2D figure and then click ENTER,then after program asks for required value for calculating area (space is required between values if there are more than one values).Then after click ENTER.After this, program calculates area and projects it to the user

Algorithm

Step 1: Start
Step 2: Read figure code.
Step 3: If figure code is 1 , read radius, calculate area and print "Area of a circle".
Step 4: If figure code is 2 , read radius, calculate area and print "Area of a semicircle".
Step 5: If figure code is 3 , read breadth and length, calculate area and print "Area of a Rectangle"
Step 6: If figure code is 4,read base and height, calculate area and print "Area of Triangle".
Step 7: If figure code is 5,read size, calculate area and print "Area of a square" .
Step 8: If figure code is 6,read base and height, calculate area and print "Area of Parallelogram"
Step 9: If figure code is 7,read upper_parallel_line ,lower_parallel_line and height, calculate area and print "Area of Trapezium"
Step 10: If figure code is 8,read diagonal_1 and diagonal_2 , calculate area and print "Area of Rhombus"
Step 11: If figure code does not match ,print "Error in figure code"
Step 12: End …

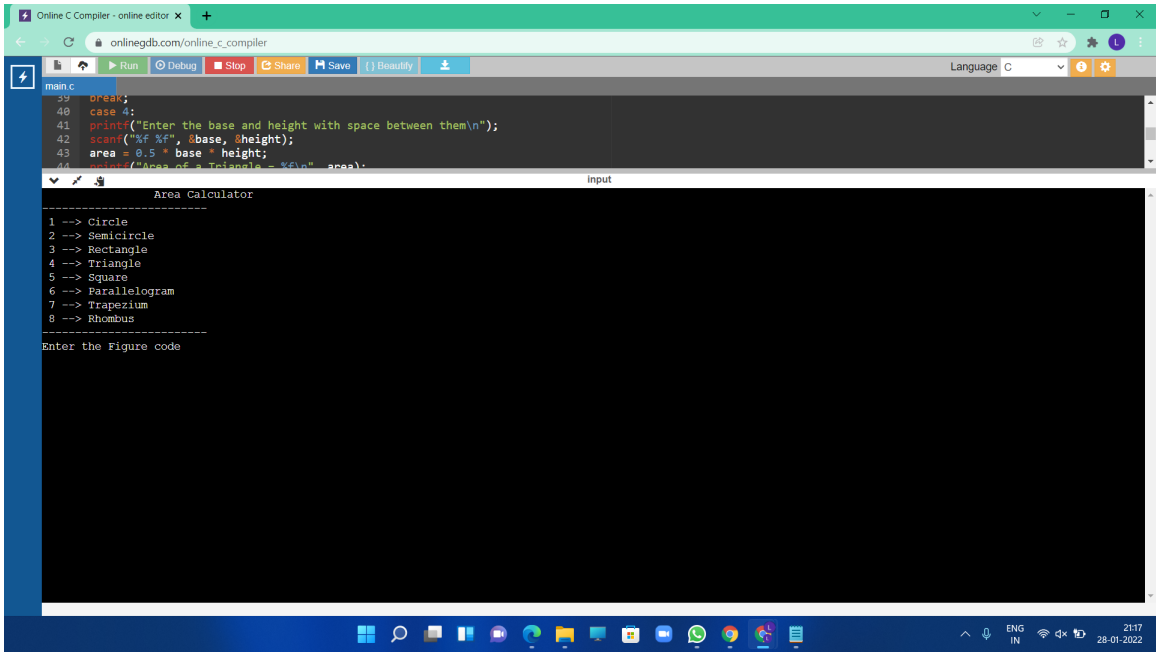
CODE

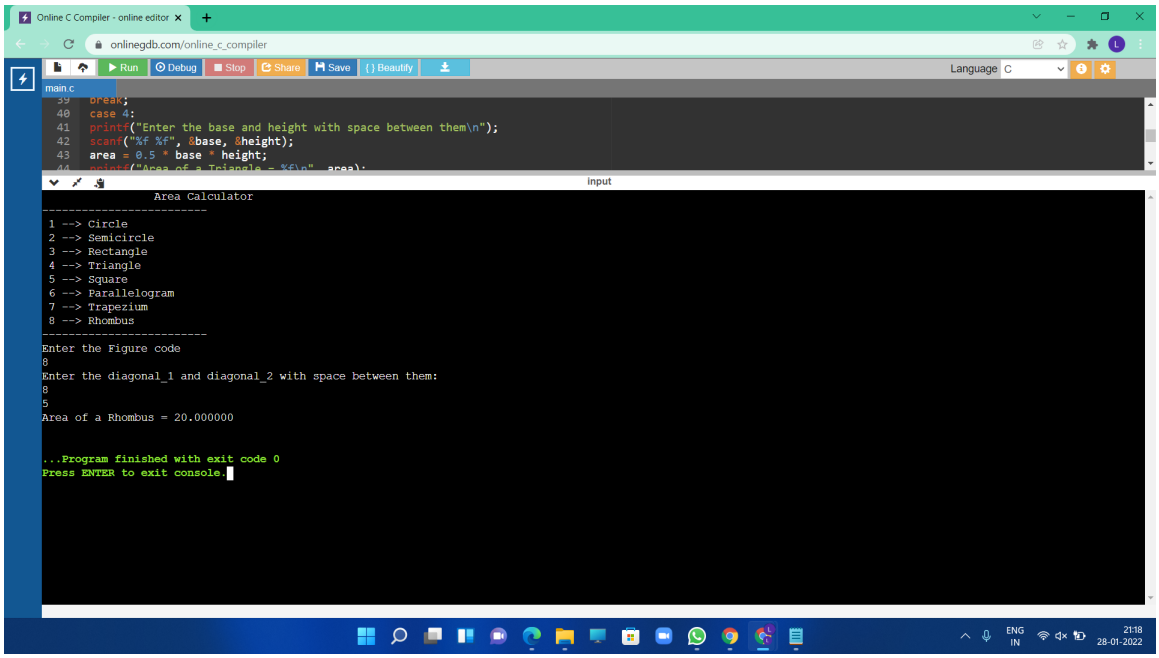
```
#include <stdio.h>
```

```
void main()
{
 int fig_code;
 float side, base, length, breadth, height, area, radius, upper_parallel_line,
lower_parallel_line, diagonal_1, diagonal_2;
 printf("\t\t Area Calculator\n");
 printf("------------------------\n");
 printf(" 1 --> Circle\n");
 printf(" 2 --> Semicircle\n");
 printf(" 3 --> Rectangle\n");
 printf(" 4 --> Triangle\n");
 printf(" 5 --> Square\n");
 printf(" 6 --> Parallelogram\n");
 printf(" 7 --> Trapezium\n");
 printf(" 8 --> Rhombus\n");
 printf("------------------------\n");
 printf("Enter the Figure code\n");
 scanf("%d", &fig_code);
 switch(fig_code)
 {
 case 1:
 printf("Enter the radius\n");
 scanf("%f", &radius);
 area = 3.142 * radius * radius;
 printf("Area of a circle = %f\n", area);
 break;
 case 2:
 printf("Enter the radius\n");
 scanf("%f", &radius);
 area = (3.142 * radius * radius)/2;
 printf("Area of a circle = %f\n", area);
 break;
 case 3:
 printf("Enter the breadth and length with space between them\n");
scanf("%f %f", &breadth, &length);
 area = breadth * length;
 printf("Area of a Reactangle = %f\n", area);
 break;
 case 4:
 printf("Enter the base and height with space between them\n");
 scanf("%f %f", &base, &height);
 area = 0.5 * base * height;
 printf("Area of a Triangle = %f\n", area);
 break;
```

```
 case 5:
 printf("Enter the side\n");
 scanf("%f", &side);
 area = side * side;
 printf("Area of a Square=%f\n", area);
 break;
 case 6:
 printf("Enter the base and height with space between them\n");
 scanf("%f %f", &base, &height);
 area = base * height;
 printf("Area of a Parallelogram = %f\n", area);
 break;
 case 7:
 printf("Enter the upper_parallel_line ,lower_parallel_line and height with spaces
between them: \n");
 scanf("%f %f %f", &upper_parallel_line, &lower_parallel_line, &height);
 area = 0.5 * (upper_parallel_line+lower_parallel_line) * height;
 printf("Area of a Trapezium = %f\n", area);
 break;
 case 8:
 printf("Enter the diagonal_1 and diagonal_2 with space between them: \n");
 scanf("%f %f", &diagonal_1, &diagonal_2 );
 area = 0.5 * diagonal_1 * diagonal_2;
 printf("Area of a Rhombus = %f\n", area);
 break;
 default:
 printf("Error in figure code\n");
 break;
 }}
```

SCREENSHOT


Online C Compiler - online editor
onlinegdb.com/online_c_compiler
Run
Debug
Stop
Share
Save
{ } Beautify
Language C
main.c
break;
case 4:
printf("Enter the base and height with space between them\n");
scanf("%f %f", &base, &height);
area = 0.5 * base * height;
input
Area Calculator
1 --> Circle
2 --> Semicircle
3 --> Rectangle
4 --> Triangle
5 --> Square
6 --> Parallelogram
7 --> Trapezium
8 --> Rhombus
Enter the Figure code
ENG
IN
21:17
28-01-2022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Language C
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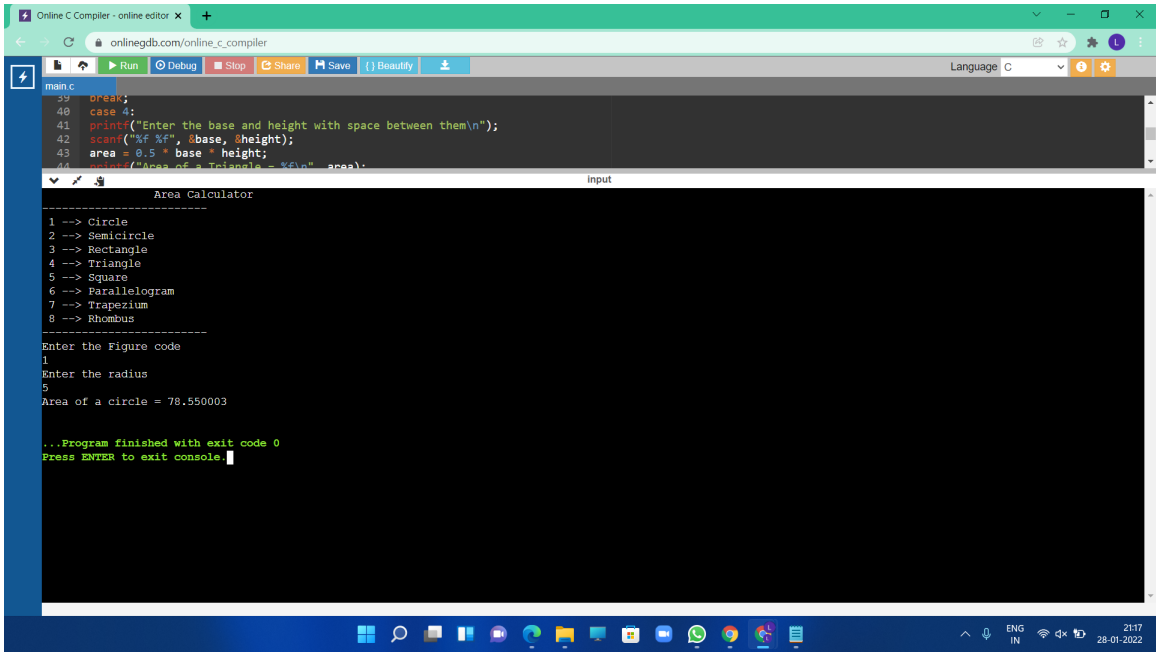
break;
case 4:
printf("Enter the base and height with space between them\n");
scanf("%f %f", &base, &height);
area = 0.5 * base * height;
input
Area Calculator
1 --> Circle
2 --> Semicircle
3 --> Rectangle
4 --> Triangle
5 --> Square
6 --> Parallelogram
7 --> Trapezium
8 --> Rhombus
Enter the Figure code
8
Enter the diagonal_1 and diagonal_2 with space between them:
8
5
Area of a Rhombus = 20.000000
...Program finished with exit code 0
Press ENTER to exit console.
ENG
IN
21:18
28-01-2022



CONCLUSION

We make “Area calculator”successfully with the help of C language and it is very useful.

Done by
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