

```
#define _USE_MATH_DEFINES
```

```
#include <iostream>
```

```
#include <cmath>
```

```
using namespace std;
```

```
float area(float radius){
```

```
    float area;
```

```
    area=M_PI*radius*radius;
```

```
    cout<<"Area of the Circle is : "<<area;
```

```
}
```

```
float area(float base, float height){
```

```
    float area;
```

```
    area=0.5*base*height;
```

```
    cout<<"Area of the Triangle is : "<<area;
```

```
}
```

```
double area(double length,double breadth){
```

```
    float area;
```

```
    area=length*breadth;
```

```
    cout<<"Area of the Rectangle is : "<<area;
```

```
}
```

```

int main()
{
    float inpRad,inpBase,inpHeight;
    double inpLength,inpBreadth;
    string shape;
    cout<<"Please Enter the Shape of the object you want to calculate the area of: ";
    cin>>shape;

    cout<< "The shape you entered is a: "<<shape<<endl;
    if(shape=="CIRCLE" || shape=="circle"){
        float radius;
        cout<<"Please Enter the Radius of the Circle: ";
        cin>>inpRad;
        area(inpRad);
    }
    else if(shape=="TRIANGLE" || shape=="triangle"){

        cout<<"Please Enter the Length of the base of triangle: ";
        cin>>inpBase;
        cout<<"Please Enter the Length of the height of triangle: ";
        cin>>inpHeight;
        area(inpBase,inpHeight);
    }
    else if(shape=="RECTANGLE" || shape=="rectangle"){
        cout<<"Please Enter the Length of the Rectangle: ";
        cin>>inpLength;
        cout<<"Please Enter the Breadth of the Rectangle: ";
        cin>>inpBreadth;
        area(inpLength,inpBreadth);
    }
}

```

```
else{
    cout<<"Invalid Shape entered. Please enter the shape in CAPITAL LETTERS."<<endl;
    cout<<"Please Enter the Shape of the object you want to calculate the area of: ";
    cin>>shape;

    cout<< "The shape you entered is: "<<shape<<endl;
    if(shape=="CIRCLE" || shape=="circle"){
        float radius;
        cout<<"Please Enter the Radius of the Circle: ";
        cin>>inpRad;
        area(inpRad);
    }
    else if(shape=="TRIANGLE" || shape=="triangle"){

        cout<<"Please Enter the Length of the base of triangle: ";
        cin>>inpBase;
        cout<<"Please Enter the Length of the height of triangle: ";
        cin>>inpHeight;
        area(inpBase,inpHeight);
    }
    else if(shape=="RECTANGLE" || shape=="rectangle"){
        cout<<"Please Enter the Length of the Rectangle: ";
        cin>>inpLength;
        cout<<"Please Enter the Breadth of the Rectangle: ";
        cin>>inpBreadth;
        area(inpLength,inpBreadth);
    }
    else{
        cout<<"Wrong input received."<<endl;
        return 1;
    }
}
```

```
}
```

```
cout<<" sq. units."<<endl<<endl<<endl;
```

```
return 0;
```

```
}
```

The screenshot displays the Code::Blocks IDE interface. The main editor window shows the source code for `main.cpp`, which includes a `main` function that prompts the user to enter the shape and its dimensions. The code uses `cout` and `cin` for input/output and includes conditional logic to calculate the area of a circle, triangle, or rectangle. The output window on the right shows the program's execution, including prompts for shape and dimensions, and the final output: "Area of the Triangle is : 25 sq. units." The status bar at the bottom indicates the process returned 0 (8x0) and the execution time was 27.532 s.

```
main.cpp [C++] - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DowsBlock Settings Help
<global> main0: int
Management Projects Files FSy
Workspace
Sources
C++
Sources
main.cpp
70 float radius;
71 cout<<"Please Enter the Radius of the Circle: ";
72 cin>>inpRad;
73 area(inpRad);
74 }
75 else if(shape=="TRIANGLE"||shape=="triangle"){
76
77     cout<<"Please Enter the Length of the base of triangle: ";
78     cin>>inpBase;
79     cout<<"Please Enter the Length of the height of triangle: ";
80     cin>>inpHeight;
81     area(inpBase,inpHeight);
82 }
83 else if(shape=="RECTANGLE"||shape=="rectangle"){
84     cout<<"Please Enter the Length of the Rectangle: ";
85     cin>>inpLength;
86     cout<<"Please Enter the Breadth of the Rectangle: ";
87     cin>>inpBreadth;
88     area(inpLength,inpBreadth);
89 }
90 else{
91     cout<<"Wrong input received."<<endl;
92     return 1;
93 }
94
95 }
96 cout<<" sq. units."<<endl<<endl<<endl;
97 return 0;
98
99
C:\Users\01ary\OneDrive\OneDrive\Documents\C++\C++\bin\Debug\C++.exe
Please Enter the Shape of the object you want to calculate the area of: ti
The shape you entered is a: ti
Invalid Shape entered. Please enter the shape in CAPITAL LETTERS.
Please Enter the Shape of the object you want to calculate the area of: TRIANGLE
The shape you entered is: TRIANGLE
Please Enter the Length of the base of triangle: 10
Please Enter the Length of the height of triangle: 5
Area of the Triangle is : 25 sq. units.
Process returned 0 (8x0) execution time : 27.532 s
Press any key to continue.
```