# Computing module report

Shapes programming

Navpreet kaur(u2064641)

Introduction

This report is all about the brief description of coursework. This report of coursework explains a c++ programming that inputs the mathematics shapes and calculate its length, breadth, height and radius. This program automatically calculates the area of mathematical shapes.

Procedure

C++ programming makes possible to calculate the length, breadth, height and radius of mathematical shapes. Firstly, I made UCASE DIAGRAM which make me easy to convert into the c++ code. In this class diagram there is six classes. In Each class include method, special method, functions and properties. In c++ coding, I had to use ‘if else statement’, arithmetic operates and logical operator in the program and other basic c++ syntax.

C++ coding

**#include <iostream>**

**using std::cout;**

**using std::cin;**

**using std::endl;**

**class Math{**

**public:**

**double PI=22.0/7;**

**double sqr(double value);**

**};**

**class Shape{**

**public:**

**Math maths;**

**double area();**

**void menu();**

**};**

**class Circle: public Shape{**

**private:**

**double radius;**

**public:**

**Circle(double r);**

**double area();**

**};**

**class Triangle:public Shape{**

**private:**

**double height;**

**double base;**

**public:**

**Triangle(double b,double h);**

**double area();**

**};**

**class Square:public shape{**

**private:**

**double side;**

**public:**

**Square(double s)**

**double area()**

**};**

**class Rectangle:public Shape{**

**private:**

**double length;**

**double width;**

**public:**

**Rectangle(double l,double w)**

**double area()**

**};**

**Implementation**

In this program firstly ,we ask for input of length,breadth,height and radius.Then,I have used class named shape with a function called input There is two superclasses and four subclasses has been used named as circle, rectangle,triangle and square. Those inherited classes are defined with a function called area where there is formula of each shape.

Project output

**A screenshot of a cell phone

Description automatically generated**

Conclusion

In the conclusion the project works effectively and efficiently and also got the desired result.This can be used as a calculator in future .It also can be upgraded and more features can be added.