VIT - Vellore

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BCSE102P_Structured and Object Oriented Programming Lab_VL2024250502365

VIT V_Structured and OOP_Lab 5_COD_Medium_Inline Functions

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

You have been assigned the responsibility of implementing the Area class for the construction company's software application.

You have declared the following inline functions within the Area class: get(), squareArea(), rectangleArea(), circleArea(), and parallelogramArea(). These functions are used to calculate the area of different geometric shapes.

Include the necessary code for the class definition and method implementations. Then, create an object of the Area class in the main method and demonstrate how the methods can be called to calculate the areas of squares, rectangles, circles, and parallelograms. Provide the

complete code solution, including the class definition, method implementations, and the main method where the object is created and the methods are called.

Note: This is a sample question asked in a HCL interview.

Formula:

Area of the square = side*side

Area of the rectangle = length*breadth

Area of the circle =3.14*radius*radius

Area of the parallelogram = base*height

Answer

```
// You are using GCC
#include<iostream>
#include<iomanip>
using namespace std;

void get();
void squareArea();
void rectangleArea();
void circleArea();
void parallelogramArea();

class Area{
    public:
    int side, length, breadth;
    double circle, base, height;

    const double pi = 3.14;

    inline void get(int sq, int l, int br, double circ, double b, double h){
        side = sq;
        length = l;
        breadth = br;
        circle = circ;
        base  = b;
        height = h;
```

```
    }

    inline void squareArea(){
        cout << "Area of the square: "<< side * side << endl;
    }

    inline void rectangleArea(){
        cout << "Area of the rectangle: "<< length * breadth << endl;
    }

    inline void circleArea(){
        cout << fixed << setprecision(2);
        cout << "Area of the circle: "<< pi*circle*circle<< endl;
    }

    inline void parallelogramArea(){
        cout << fixed << setprecision(2);
        cout<<"Area of the parallelogram: "<<base * height<< endl;
    }
};

int main(){
    int s, l, br;
    double c, b, h;
    cin >> s >> l >> br >> c >> b >> h;
    Area A;
    A.get(s,l,br,c,b,h);
    A.squareArea();
    A.rectangleArea();
    A.circleArea();
    A.parallelogramArea();
    return 0;
}
```

Status : Correct *Marks : 10/10*