VIT - Vellore

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BCSE102P_Structured and Object Oriented Programming Lab_VL2024250502365

VIT V_Structured and OOP_Lab 5_COD_Easy_Constructors Destructors

Attempt : 1
Total Mark : 20
Marks Obtained : 20

Section 1 : Coding

1. Problem Statement

Create a program that calculates and prints the areas of two walls. Define a class called Wall with private attributes for length and height. Initialize these variables using a constructor. In the main function, read the dimensions for two walls. Use a member function called calculateArea in the class to calculate the area. Read inputs for two walls and print the result.

Formula:

Area = length * height

Answer

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

int main(){
    class Wall{
        private:
        double length1,length2;
        double height1,height2;
        public:
        Wall(double a, double b,double c, double d){
            length1 = a;
            length2 = b;

            height1 = c;
            height2 = d;
        }

        void calculate_area(){
            double area1 = length1*height1;
            double area2 = length2*height2;

            cout<<"Area of Wall 1: "<<area1<<endl;
            cout<<"Area of Wall 2: "<<area2<<endl;
        }

    };
    double a,b,c,d;
    cin>>a>>c;
    cin>>b>>d;

    Wall obj(a,b,c,d);
    obj.calculate_area();
    return 0;
}
```

Status : Correct **Marks : 10/10**

2. Problem Statement

Alex is creating a simulation to track the creation and destruction of

objects in a program. Each object is represented by an instance of the man class. Every time a new object is created, a message is printed indicating its creation number. Similarly, when an object is destroyed, a message is printed indicating its destruction order.

Write a program to simulate the creation of n objects and track the order in which they are created and destroyed.

Answer

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

int main(){
    class create_destroy{
        int N;
        public:
        create_destroy(int x){
            int i = 1;
            N = x;
            while(x>0){
                cout<<"Created "<<i<<endl;
                i++;
                x--;
            }
        }
        ~create_destroy(){
            int y = N-1;
            int i = y;
            while(y>=0){
                cout<<"Destroyed "<<i<<endl;
                i--;
                y--;
            }
        }
    };
    int N;
    cin>>N;
    create_destroy obj(N);
    return 0;
}
```

Status : Correct *Marks : 10/10*