VIT - Vellore

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BCSE102P_Structured and Object Oriented Programming Lab_VL2024250502365

VIT V_Structured and OOP_Lab 4_COD_Easy_Structure within Structures

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Arun needs a program to analyze waterfalls. Your task as a programmer is to guide him in completing the program using nested structures.

Define a Waterfall structure with width, height, and depth. Create a TotalFlow structure containing a waterfall. Implement functions to calculate total volume and surface area. Input the waterfall dimensions and display the total volume and surface area of a waterfall.

Formulae:

Total Volume = Width x Height x Depth

Surface Area = 2 x (Width x height + Width x Depth + Height x Depth)

Answer

```
// You are using GCC
#include<stdio.h>

struct Waterfall{
    float width;
    float height;
    float depth;
};
struct TotalFlow{
    struct Waterfall flow;
};
int main(){
    struct TotalFlow e;
    scanf("%f %f %f ",&e.flow.width, &e.flow.height, &e.flow.depth);
    printf("%.2f cubic meters\n",e.flow.width*e.flow.height*e.flow.depth);
    printf("%.2f square meters\n",2*(e.flow.width*e.flow.height +
e.flow.width*e.flow.depth + e.flow.height*e.flow.depth));
    return 0;
}
```

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