

VIT - Vellore

Name: RONIT MEXSON .

Email: ronit.mexson2024@vitstudent.ac.in

Roll no: 24BAI0036

Phone: 9999999999

Branch: ARUMUGA ARUN R_OOPS

Department: admin

Batch: VL2024250502365

Degree: admin

Scan to verify results



BCSE102P_Structured and Object Oriented Programming Lab_VL2024250502365

VIT V_Structured and OOP_Lab 5_COD_Hard_Functions with default Arguments

Attempt : 1

Total Mark : 10

Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

In a small town library, the librarian wants to track the total number of books across different categories like "Science", "Fiction", and "History". Implement a program that calculates the total number of books by passing the objects of each category as arguments to a function.

Class Definition:

Category Class: Contains an integer attribute for the number of books and a constructor to initialize it. Function: The calculateTotalBooks function takes multiple Category objects as arguments and returns the total number of books.

Answer

```
#include<iostream>
#include<vector>
using namespace std;

class Categories{
public:
    int books;
    Categories(int n) : books(n){}
};

int calculateTotalBooks(vector<Categories>&cat){
    int t= 0;
    for(const Categories &category:cat){
        t+= category.books;
    }
    return t;
}

int main(){
    int n;
    cin>>n;

    vector<Categories>cat;

    for(int i = 0; i < n; i++){
        int books;
        cin>>books;
        cat.push_back(Categories(books));
    }

    cout<<"Total Books: "<<calculateTotalBooks(cat);

    return 0;
}
```

Status : Correct

Marks : 10/10