VIT - Vellore

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BCSE102P_Structured and Object Oriented Programming Lab_VL2024250502354

VIT V_Structured and OOP_Lab 5_COD_Medium_Static data Members functions

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

An event management company wants to keep track of the participants attending their events. They need a program that allows them to input participant details and search for a specific participant based on their ID. Additionally, the program should keep track of the total number of participants registered.

You are tasked with implementing a program that uses the Event class to manage participant information. The class should have:

A static member variable totalParticipants to store the total number of participants.A member function setParticipant to set the participant's ID

(which should be unique) and name.A member function getParticipantID to retrieve a participant's ID.A member function display to print a participant's ID and name.A static member function getTotalParticipants to return the total number of participants registered.

Answer

```cpp
#include <iostream>
#include <string>
#include <vector>
using namespace std;
class Event {
public:
    static int totalParticipants;

private:
    int participantID;
    string participantName;

public:
    void setParticipant(int id, string name) {
        participantID = id;
        participantName = name;
        totalParticipants++;
    }

    int getParticipantID() const {
        return participantID;
    }

    void display() const {
        cout << "Participant found: " <<"Participant ID: "<< participantID << " " <<",
Name:"<< participantName << endl;
    }

    static int getTotalParticipants() {
        return totalParticipants;
    }
};

int Event::totalParticipants = 0;

int main() {
```

```cpp
    int n;
    cin >> n;
    cin.ignore();

    vector<Event> participants(n);

    for (int i = 0; i < n; ++i) {
        int id;
        string name;
        cin >> id;
        getline(std::cin >> std::ws, name);

        participants[i].setParticipant(id, name);
    }

    int searchID;
    cin >> searchID;

    bool found = false;
    for (const auto& participant : participants) {
        if (participant.getParticipantID() == searchID) {
            participant.display();
            found = true;
            break;
        }
    }

    if (!found) {
        cout << "Participant with ID " << searchID << " not found." << endl;
    }

    return 0;
}
```

Status : Correct   *Marks : 10/10*