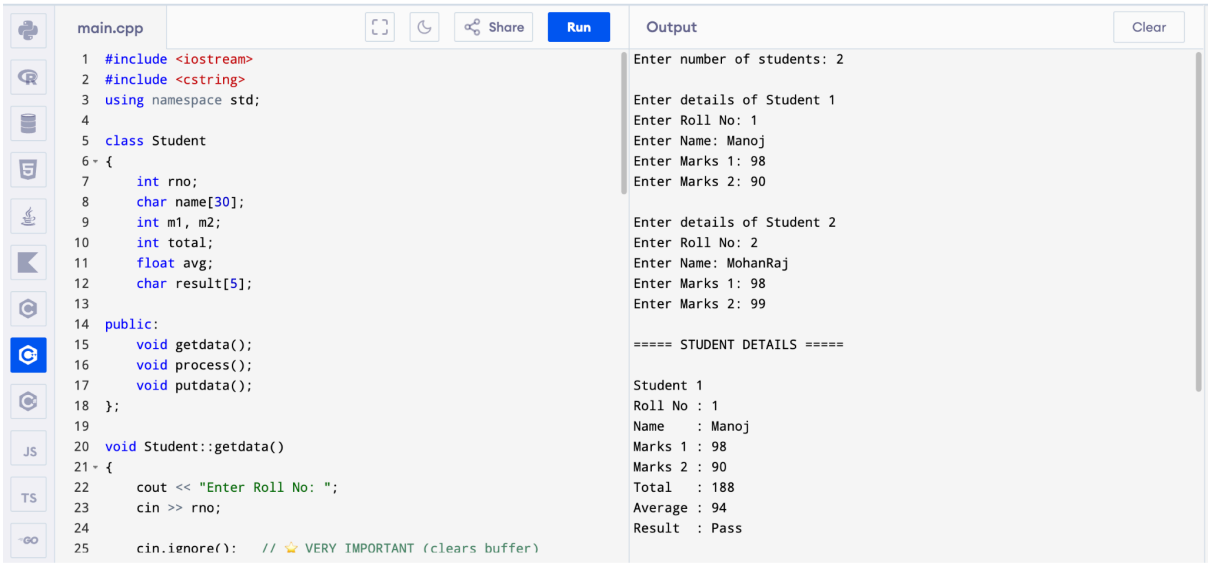
C++ DAY 4 Programs

1) Student Mark Manupulation

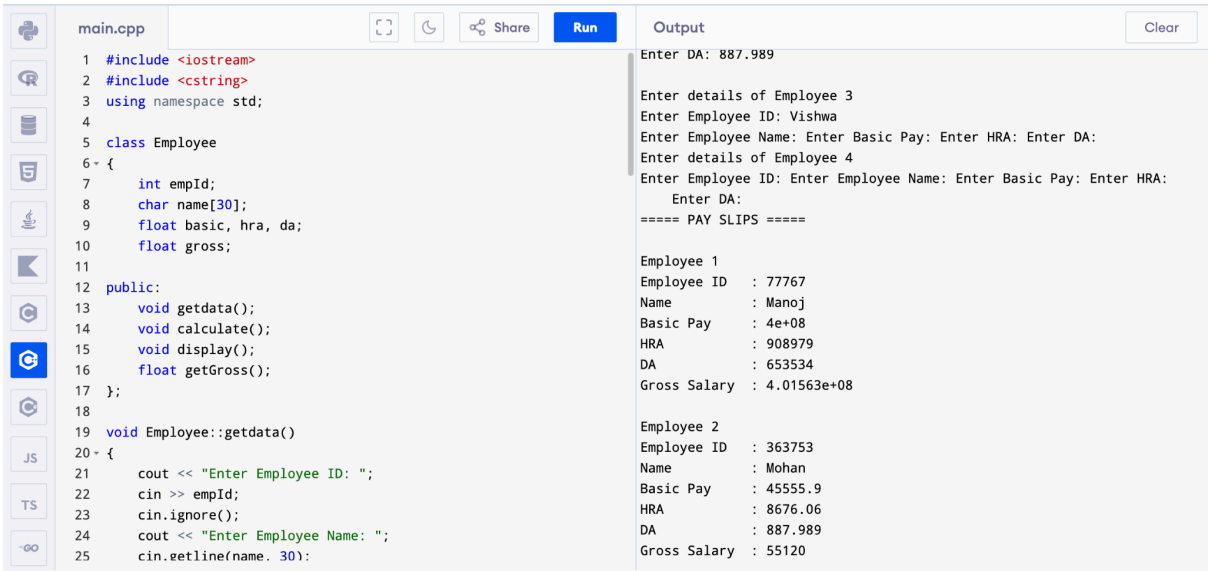


```
#include <iostream>
#include <cstring>
using namespace std;

class Student
{
    int rno;
    char name[30];
    int m1, m2;
    int total;
    float avg;
    char result[5];

public:
    void getdata();
    void process();
    void putdata();
};

void Student::getdata()
{
    cout << "Enter Roll No: ";
    cin >> rno;

    cin.ignore();   // ⭐ VERY IMPORTANT (clears buffer)
```

```
Enter number of students: 2

Enter details of Student 1
Enter Roll No: 1
Enter Name: Manoj
Enter Marks 1: 98
Enter Marks 2: 90

Enter details of Student 2
Enter Roll No: 2
Enter Name: MohanRaj
Enter Marks 1: 98
Enter Marks 2: 99

===== STUDENT DETAILS =====

Student 1
Roll No : 1
Name    : Manoj
Marks 1 : 98
Marks 2 : 90
Total   : 188
Average : 94
Result  : Pass
```

2) Case Study 2: Employee Salary Management:

An organization needs a program to manage salary details of its employees.
Requirements / Questions:
Create an Employee class with empId, name, basic pay, HRA, and DA.
Use an array of Employee objects to store salary details.
Implement member functions to:
Calculate gross salary
Display pay slip
Display employees whose gross salary is above a given value.
Find the total salary expenditure of the company.



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

class Employee
{
    int empId;
    char name[30];
    float basic, hra, da;
    float gross;

public:
    void getdata();
    void calculate();
    void display();
    float getGross();
};

void Employee::getdata()
{
    cout << "Enter Employee ID: ";
    cin >> empId;
    cin.ignore();
    cout << "Enter Employee Name: ";
    cin.getline(name, 30);
```

```
Enter DA: 887.989

Enter details of Employee 3
Enter Employee ID: Vishwa
Enter Employee Name: Enter Basic Pay: Enter HRA: Enter DA:
Enter details of Employee 4
Enter Employee ID: Enter Employee Name: Enter Basic Pay: Enter HRA:
    Enter DA:
===== PAY SLIPS =====

Employee 1
Employee ID   : 77767
Name          : Manoj
Basic Pay     : 4e+08
HRA           : 908979
DA            : 653534
Gross Salary  : 4.01563e+08

Employee 2
Employee ID   : 363753
Name          : Mohan
Basic Pay     : 45555.9
HRA           : 8676.06
DA            : 887.989
Gross Salary  : 55120
```

3) Case Study 3: Library Book Record System

A library wants to maintain book information.
Requirements / Questions:
Create a Book class with bookId, title, author, and price.
Store records using an array of Book objects.
Write member functions to:
Accept book details
Display all books
Search for a book by title.
Display books whose price is below a specified amount.

main.cpp

Share Run

```cpp
#include <iostream>
#include <cstring>
using namespace std;

class Book
{
    int bookId;
    char title[30];
    char author[30];
    float price;

public:
    void getdata();
    void display();
    int searchByTitle(char t[]);
    float getPrice();
};

void Book::getdata()
{
    cout << "Enter Book ID: ";
    cin >> bookId;

    cin.ignore();

```

Output

Clear

```
Enter number of books: 3

Enter details of Book 1
Enter Book ID: 1
Enter Book Title: StrangerThings
Enter Author Name: Duffer Brothers
Enter Price: 4354546467656.877867

Enter details of Book 2
Enter Book ID: Spider Man
Enter Book Title: Enter Author Name: Enter Price:
Enter details of Book 3
Enter Book ID: Enter Book Title: Enter Author Name: Enter Price:
===== BOOK DETAILS =====

Book 1
Book ID : 1
Title   : StrangerThings
Author  : Duffer Brothers
Price   : 4.35455e+12

Book 2
Book ID : 0
Title   :
Author  :
```