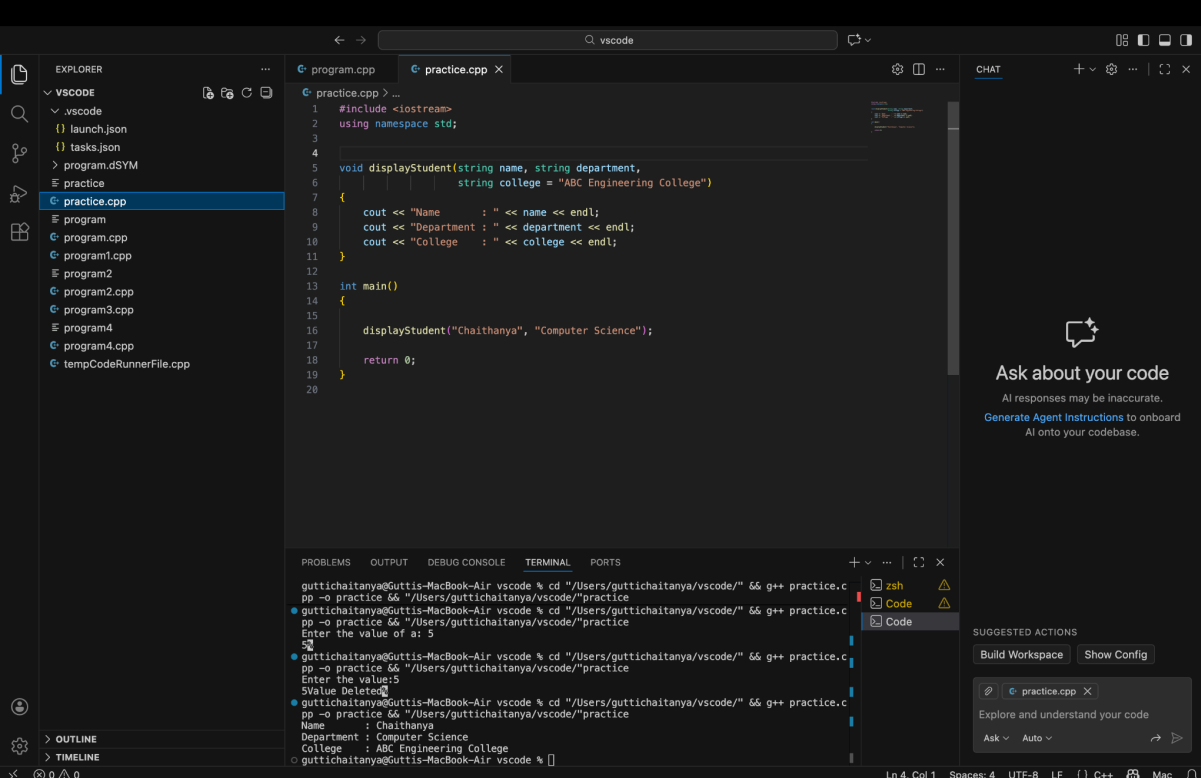


## DAY 3 Class Problems

1) Write a C++ program to display student details using a function with default arguments. Parameters: Name, Department, College , Set the default value of College as "ABC Engineering College".



The screenshot shows a Visual Studio Code editor with a C++ program named `practice.cpp` open. The program defines a function `displayStudent` with default arguments for department and college, and a `main` function that calls it with specific values. The terminal at the bottom shows the compilation and execution of the program, displaying the student details.

```
1 #include <iostream>
2 using namespace std;
3
4
5 void displayStudent(string name, string department,
6                     string college = "ABC Engineering College")
7 {
8     cout << "Name      : " << name << endl;
9     cout << "Department : " << department << endl;
10    cout << "College   : " << college << endl;
11 }
12
13 int main()
14 {
15
16     displayStudent("Chaithanya", "Computer Science");
17
18     return 0;
19 }
20
```

Terminal Output:

```
guttichaitanya@Guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ practice.c
pp -o practice && "/Users/guttichaitanya/vscode/"practice
guttichaitanya@Guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ practice.c
pp -o practice && "/Users/guttichaitanya/vscode/"practice
Enter the value of a: 5
5
guttichaitanya@Guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ practice.c
pp -o practice && "/Users/guttichaitanya/vscode/"practice
Enter the value:5
5
guttichaitanya@Guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ practice.c
pp -o practice && "/Users/guttichaitanya/vscode/"practice
Name      : Chaithanya
Department : Computer Science
College   : ABC Engineering College
guttichaitanya@Guttis-MacBook-Air vscode %
```

2) Write a C++ function to calculate the area of a rectangle using default arguments.

Default width = 10

Default height = 5

Demonstrate function calls with:

No arguments

One argument

Two arguments

```
1 #include <iostream>
2 using namespace std;
3 int area(int width = 10, int height = 5)
4 {
5     return width * height;
6 }
7
8 int main()
9 {
10
11     cout << "Area with no arguments: "
12         << area() << endl;
13
14     cout << "Area with one argument: "
15         << area(20) << endl;
16
17     cout << "Area with two arguments: "
18         << area(20, 8) << endl;
19
20     return 0;
21 }
22
23
24
```

```
pp -o practice && "/Users/guttichaitanya/vscode/"practice
guttichaitanya@guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ practice.c
pp -o practice && "/Users/guttichaitanya/vscode/"practice
Enter the value:5
5Value Deleted
guttichaitanya@guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ practice.c
pp -o practice && "/Users/guttichaitanya/vscode/"practice
Name : Chaitanya
Department : Computer Science
College : ABC Engineering College
guttichaitanya@guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ practice.c
pp -o practice && "/Users/guttichaitanya/vscode/"practice
Area with no arguments: 50
Area with one argument: 100
Area with two arguments: 160
guttichaitanya@guttis-MacBook-Air vscode %
```

- 3) Write a C++ program to overload the function max() to find:
- Maximum of two integers
  - Maximum of two floating-point numbers
  - Maximum of three integers

The screenshot shows a Visual Studio Code editor with a C++ file named `practice.cpp`. The code implements three overloaded versions of the `max` function. The `main` function calls these functions with different arguments to demonstrate their behavior.

```
20 int main()
21 {
22     cout << "Max of two floats: "
23         << max(10.5f, 20.3f) << endl;
24
25     cout << "Max of three integers: "
26         << max(5, 15, 10) << endl;
27
28     return 0;
29 }
```

The terminal window at the bottom shows the output of the program after compilation and execution:

```
guttichaitanya@guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ practice.c
pp -o practice && ./Users/guttichaitanya/vscode/"practice
Name : Chaitanya
Department : Computer Science
College : ABC Engineering College
guttichaitanya@guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ practice.c
pp -o practice && ./Users/guttichaitanya/vscode/"practice
Area with no arguments: 50
Area with one argument: 100
Area with two arguments: 160
guttichaitanya@guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ practice.c
pp -o practice && ./Users/guttichaitanya/vscode/"practice
Max of two integers: 20
Max of two floats: 20.3
Max of three integers: 15
guttichaitanya@guttis-MacBook-Air vscode %
```