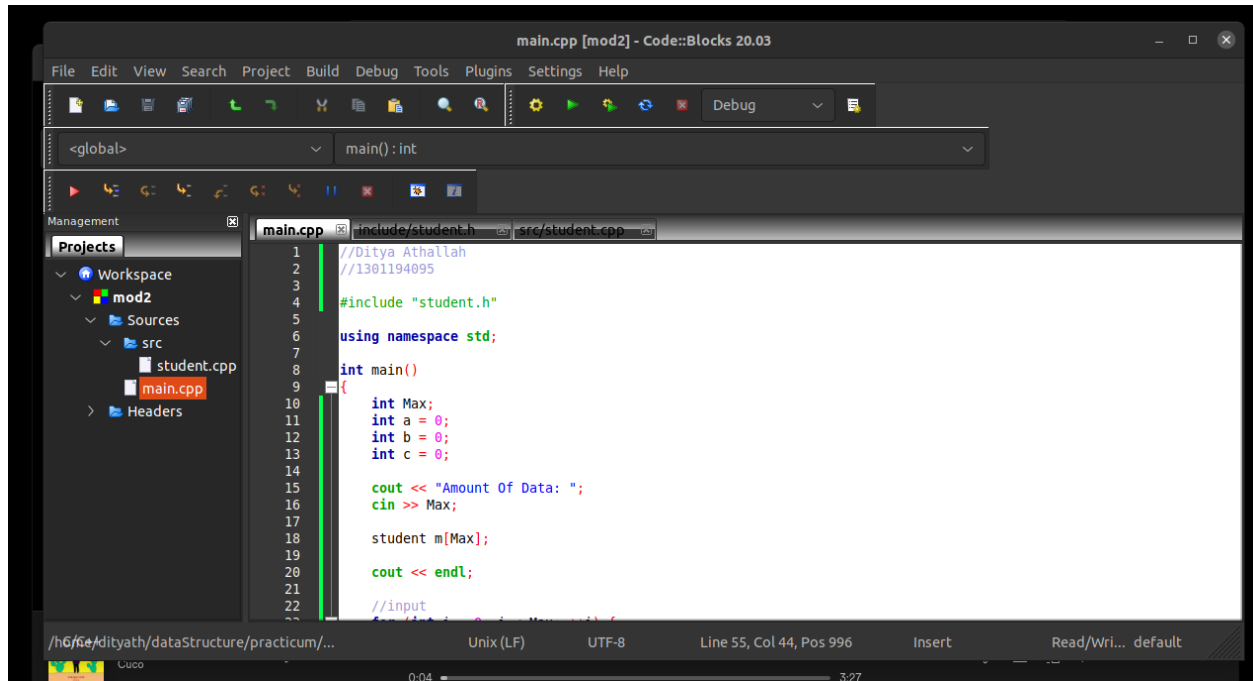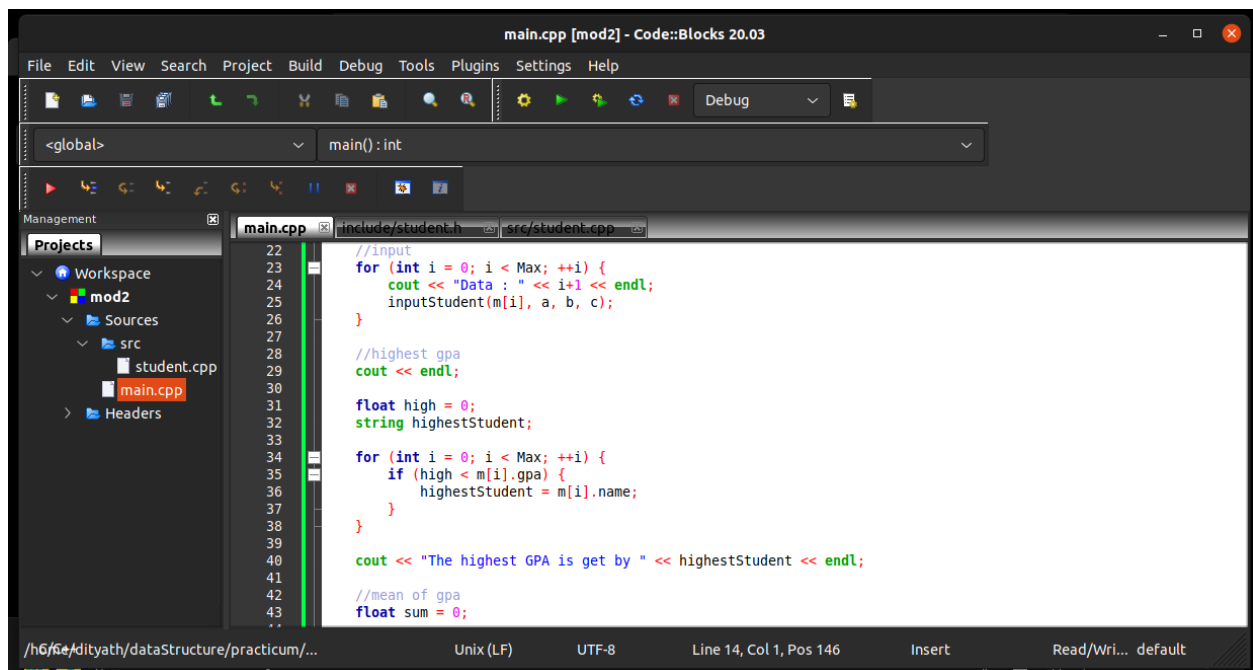Ditya Athallah

My code:

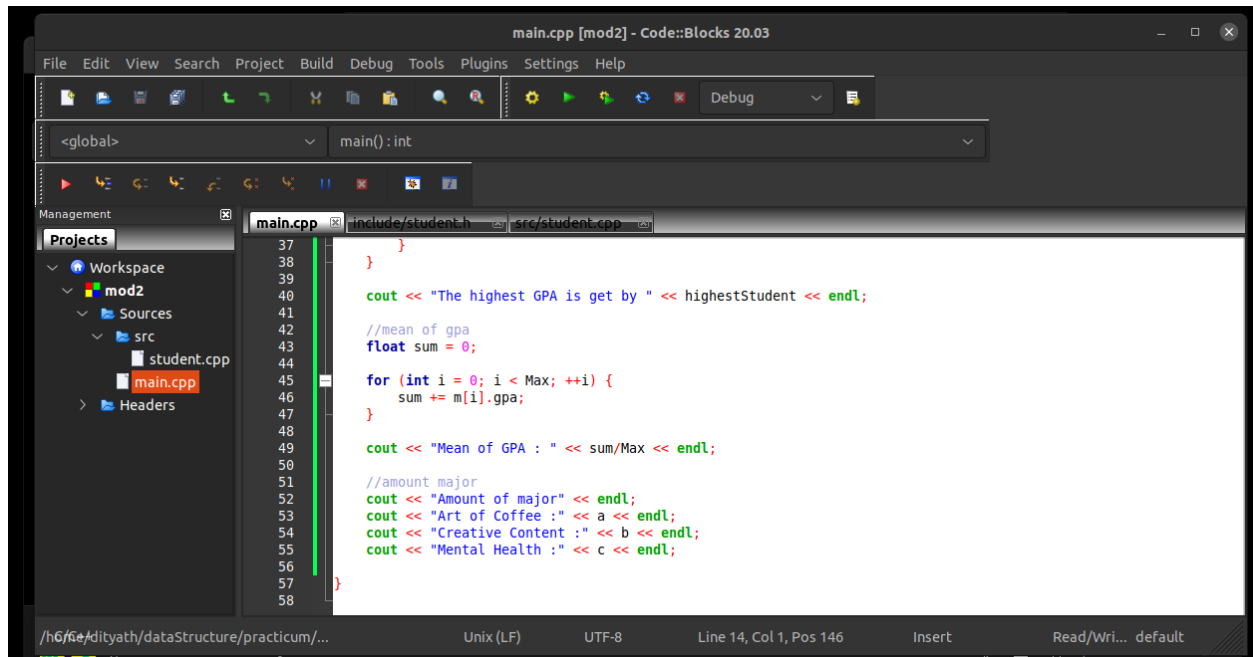main.cpp


```cpp
//Ditya Athallah
//1301194095

#include "student.h"

using namespace std;

int main()
{
    int Max;
    int a = 0;
    int b = 0;
    int c = 0;

    cout << "Amount Of Data: ";
    cin >> Max;

    student m[Max];

    cout << endl;

    //input
```



```cpp
    //input
    for (int i = 0; i < Max; ++i) {
        cout << "Data : " << i+1 << endl;
        inputStudent(m[i], a, b, c);
    }

    //highest gpa
    cout << endl;

    float high = 0;
    string highestStudent;

    for (int i = 0; i < Max; ++i) {
        if (high < m[i].gpa) {
            highestStudent = m[i].name;
        }
    }

    cout << "The highest GPA is get by " << highestStudent << endl;

    //mean of gpa
    float sum = 0;
```
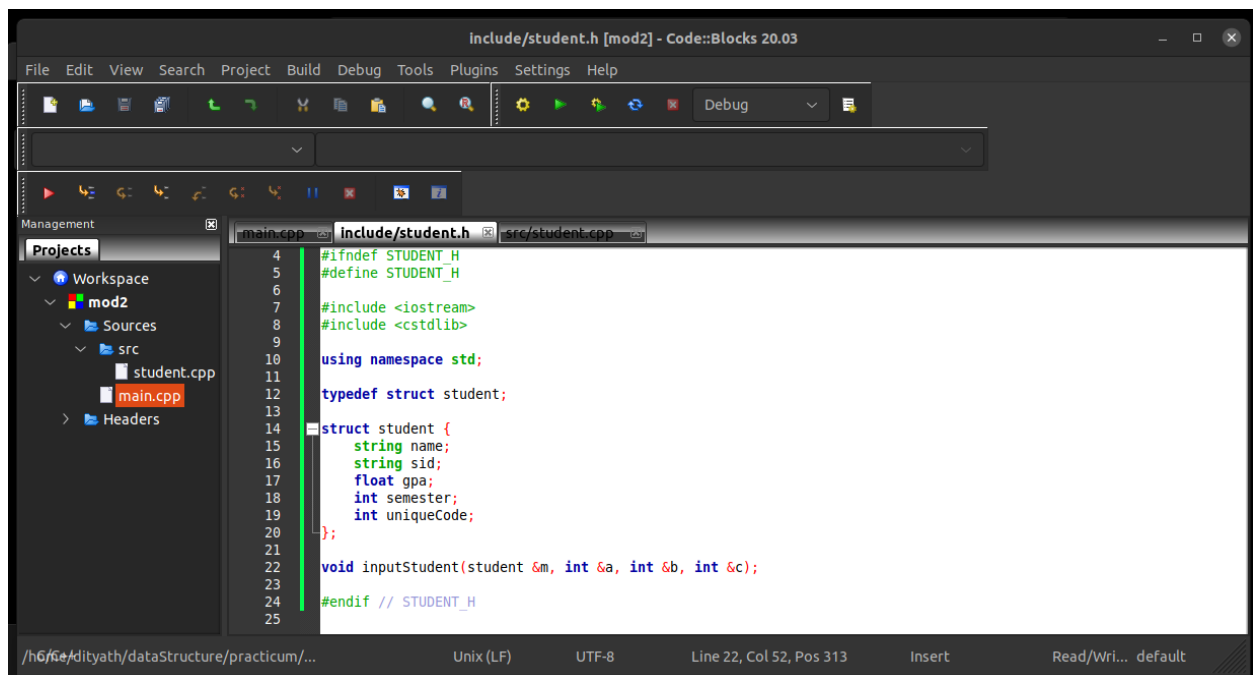
```
37                    }
38            }
39
40            cout << "The highest GPA is get by " << highestStudent << endl;
41
42            //mean of gpa
43            float sum = 0;
44
45            for (int i = 0; i < Max; ++i) {
46                    sum += m[i].gpa;
47            }
48
49            cout << "Mean of GPA : " << sum/Max << endl;
50
51            //amount major
52            cout << "Amount of major" << endl;
53            cout << "Art of Coffee :" << a << endl;
54            cout << "Creative Content :" << b << endl;
55            cout << "Mental Health :" << c << endl;
56
57    }
58
```

student.h


```
4     #ifndef STUDENT_H
5     #define STUDENT_H
6
7     #include <iostream>
8     #include <cstdlib>
9
10    using namespace std;
11
12    typedef struct student;
13
14    struct student {
15        string name;
16        string sid;
17        float gpa;
18        int semester;
19        int uniqueCode;
20    };
21
22    void inputStudent(student &m, int &a, int &b, int &c);
23
24    #endif // STUDENT_H
25
```

student.cpp

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`<global>`   `inputStudent(student& m, int& a, int& b, int& c) : void`

```cpp
#include "student.h"

void inputStudent(student &m, int &a, int &b, int &c) {

    cout << "Name: ";
    cin >> m.name;

    cout << "SID : ";
    cin >> m.sid;

    if (m.sid.substr(1, 1) == "1") {
        cout << "Art of Coffee" << endl;
        a++;
    } else if (m.sid.substr(1, 1) == "2") {
        cout << "Creative Content" << endl;
        b++;
    } else if (m.sid.substr(1, 1) == "3") {
        cout << "Mental Health" << endl;
        c++;
    }

    cout << "semester : ";
```

/home/adityath/dataStructure/practicum/...   Unix (LF)   UTF-8   Line 19, Col 13, Pos 451   Insert   Read/Wri... default

```cpp
    cout << "semester : ";
    cin >> m.semester;

    cout << "GPA : ";
    cin >> m.gpa;

    if (m.gpa > 3.5 && m.semester <= 8) {
        cout << "CUMLAUDE" << endl;
    }

    cout << "Unique Code : ";
    cin >> m.uniqueCode;

    if (m.uniqueCode%2 == 1) {
        cout << "OUTSTANDING STUDENTS";
    }

    cout << endl;

}
```

/home/adityath/dataStructure/practicum/...   Unix (LF)   UTF-8   Line 19, Col 13, Pos 451   Insert   Read/Wri... default

```
Amount Of Data: 4

Data : 1
Name: Hafidz
SID : 12345
Creative Content
semester : 7
GPA : 3.57
CUMLAUDE
Unique Code : 11
OUTSTANDING STUDENTS
Data : 2
Name: Joni
SID : 21345
Art of Coffee
semester : 5
GPA : 3.1
Unique Code : 2222

Data : 3
Name: Ditya
SID : 234
Mental Health
semester : 2
GPA : 3.9
CUMLAUDE
Unique Code : 12415
OUTSTANDING STUDENTS
Data : 4
Name: Hey
SID : 1342
Mental Health
semester : 4
GPA : 3.2
Unique Code : 122

The highest GPA is get by Hey
Mean of GPA : 3.4425
Amount of major
Art of Coffee :1
Creative Content :1
Mental Health :2

Process returned 0 (0x0)   execution time : 75.127 s
Press ENTER to continue.
```