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#include <iostream>
#include <fstream>
#include <string.h>
using namespace std;

class Student
{
public:
    string name;
    int roll;
    float cgpi;
    int sem;
};

const int LINE = 5;

int main()
{
    Student stud[5];
    // Entering Data into Student class object
    for (int i = 0; i < 5; i++)
    {
        cout << "Enter the Name, Roll no., CGPI and sem of Student " << i +
1 << ":" << endl;
        cin.ignore();
        getline(cin, stud[i].name, '\n');
        cin >> stud[i].roll;
        cin >> stud[i].cgpi;
        cin >> stud[i].sem;
        if (i == 4)
        {
            cout << "You have Entered all the Entries" << endl;
        }
    }

    // Entering Data into the text file
    ofstream myfile("example.txt", std::ios_base::app);
    for (int i = 0; i < 5; i++)
    {
        if (myfile.is_open())
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        {
            myfile << stud[i].name << ", " << stud[i].roll << ", " <<
stud[i].cgpi << ", " << stud[i].sem << endl;
        }
        else
            cout << "Unable to open file" << endl;
    }
    myfile.close();

    //Taking threshold CGPI
    float k;
    cout << "Enter the threshold CGPI" << endl;
    cin >> k;

    // Opening file to read data
    ifstream f("example.txt");
    string s;

    cout << "These are the Students with CGPI greater than Threshold CGPI:"
<< endl;
    for (int i = 1; i <= LINE; i++)
    {
        if (stud[i - 1].cgpi > k)
        {
            getline(f, s);
            cout << s << endl;
        }
        else
        {
            getline(f, s);
        }
    }

    //Entering data at a desired Position and storing it
    Student S[6];
    int pos;
    cout << "Enter the position at which you want to enter the data :" <<
endl;
    cin >> pos;
    if (pos > 0 && pos < 6)

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{
    cout << "The value of Position is valid Processing..." << endl;
}
else
{
    cout << "Invalid Position value" << endl;
}

for (int i = 0, j = 0; i < 5, j < 6; i++, j++)
{
    if (j == pos - 1)
    {
        cout << "Enter the data for New Position " << pos << endl;
        cin.ignore();
        getline(cin, S[j].name, '\n');
        cin >> S[j].roll;
        cin >> S[j].cgpi;
        cin >> S[j].sem;
        i--;
    }
    else
    {
        S[j] = stud[i];
    }
}

// Updating the text file with updated data
ofstream ofs;
ofs.open("example.txt", ios::out | ios::trunc);
for (int i = 0; i < 6; i++)
{
    if (ofs.is_open())
    {
        ofs << S[i].name << ", " << S[i].roll << ", " << S[i].cgpi <<
", " << S[i].sem << endl;
    }
    else
        cout << "Unable to open file" << endl;
}
cout << "Your Data has been Updated in file" << endl;

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ofs.close();  
return 0;  
}
```

THE OUTPUT SCREENSHOT IS ATTACHED BELOW

Activities  Terminal ▾



```
sitaram@sitaram:~/DS-Lab$ g++ -o lab-assign2 lab-assign2.cpp
sitaram@sitaram:~/DS-Lab$ ./lab-assign2
Enter the Name, Roll no., CGPI and sem of Student 1:
rohit rathi
195567
9.6
3
Enter the Name, Roll no., CGPI and sem of Student 2:
raja rathi
195578
5.6
3
Enter the Name, Roll no., CGPI and sem of Student 3:
aakash sharma
195543
9.5
3
Enter the Name, Roll no., CGPI and sem of Student 4:
avi bura
195532
8.1
3
Enter the Name, Roll no., CGPI and sem of Student 5:
yash gupta
195521
9
3
You have Entered all the Entries
Enter the threshold CGPI
8
These are the Students with CGPI greater than Threshold CGPI:
ohit rathi, 195567, 9.6, 3
aakash sharma, 195543, 9.5, 3
avi bura, 195532, 8.1, 3
yash gupta, 195521, 9, 3
Enter the position at which you want to enter the data :
3
The value of Position is valid Processing...
Enter the data for New Position 3
```



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3
Enter the Name, Roll no., CGPI and sem of Student 2:
raja rathi
195578
5.6
3
Enter the Name, Roll no., CGPI and sem of Student 3:
aakash sharma
195543
9.5
3
Enter the Name, Roll no., CGPI and sem of Student 4:
avi bura
195532
8.1
3
Enter the Name, Roll no., CGPI and sem of Student 5:
yash gupta
195521
9
3
You have Entered all the Enteries
Enter the threshold CGPI
8
These are the Students with CGPI greater than Threshold CGPI:
ohit rathi, 195567, 9.6, 3
aakash sharma, 195543, 9.5, 3
avi bura, 195532, 8.1, 3
yash gupta, 195521, 9, 3
Enter the position at which you want to enter the data :
3
The value of Position is valid Processing...
Enter the data for New Position 3
raja rammmmm
194444
8.8
3
sitaram@sitaram:~/DS-Lab$
```