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

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

int main()
{
    Student stud[6];
    string l;
    // 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;
        getline(cin, stud[i].name, '\n');
        getline(cin, l);
        stringstream rollstream(l);
        rollstream >> stud[i].roll;
        getline(cin, l);
        stringstream cgpiostream(l);
        cgpiostream >> stud[i].cgpi;
        getline(cin, l);
        stringstream semstream(l);
        semstream >> stud[i].sem;
        if (i == 4)
        {

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        cout << "You have Entered all the Enteries" << endl;
    }
}

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

cout << "These are the Students with CGPI greater than Threshold CGPI:"
<< endl;
for (int i = 0; i < 5; i++)
{
    if (stud[i].cgpi > k)
    {
        cout << "Name - " << stud[i].name << endl;
        cout << "Roll no. - " << stud[i].roll << endl;
        cout << "CGPI - " << stud[i].cgpi << endl;
        cout << "Semester - " << stud[i].sem << endl
            << endl;
    }
}

//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)
{
    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++)
{

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        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];
        }
    }

    for (int i = 0; i < 6; i++)
    {
        stud[i] = S[i];
    }

    for (int i = 0; i < 6; i++)
    {
        cout << "Name - " << stud[i].name << endl;
        cout << "Roll no. - " << stud[i].roll << endl;
        cout << "CGPI - " << stud[i].cgpi << endl;
        cout << "Semester - " << stud[i].sem << endl
            << endl;
    }

    return 0;
}

```

BELOW IS THE SCREENSHOT OF THE OUTPUT OF THIS CODE

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PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
sitaram@sitaram:~/DS-Lab/Assign1$ g++ -o labAssign1 labAssign1.cpp
sitaram@sitaram:~/DS-Lab/Assign1$ ./labAssign1
Enter the Name, Roll no., CGPI and sem of Student 1:
rohit rathi
195567
8.8
3
Enter the Name, Roll no., CGPI and sem of Student 2:
raja rathi
194565
9
3
Enter the Name, Roll no., CGPI and sem of Student 3:
yash gupta
184453
9.4
6
Enter the Name, Roll no., CGPI and sem of Student 4:
avi prakash
194432
5.6
3
Enter the Name, Roll no., CGPI and sem of Student 5:
rakesh sh
195566
7
3
You have Entered all the Enteries
Enter the threshold CGPI
9
These are the Students with CGPI greater than Threshold CGPI:
Name - yash gupta
Roll no. - 184453
CGPI - 9.4
Semester - 6

Enter the position at which you want to enter the data :
4
```

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PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
4
The value of Position is valid Processing...
Enter the data for New Position 4
tanishk shukla
195432
8.3
3
Name - rohit rathi
Roll no. - 195567
CGPI - 8.8
Semester - 3

Name - raja rathi
Roll no. - 194565
CGPI - 9
Semester - 3

Name - yash gupta
Roll no. - 184453
CGPI - 9.4
Semester - 6

Name - tanishk shukla
Roll no. - 195432
CGPI - 8.3
Semester - 3

Name - avi prakash
Roll no. - 194432
CGPI - 5.6
Semester - 3

Name - rakesh sh
Roll no. - 195566
CGPI - 7
Semester - 3
```

```
sitaram@sitaram:~/DS-Lab/Assign1$
```