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CS103

BSCS 19-A

FINALS SPRING 2020

18AUG,2020

TUESDAY

Teacher upload course result.

Code in c++ given below with the screenshot of outputs.

```
1  # include <conio.h>
2  #include <iostream>
3  #include <string>
4  #include <fstream>
5  #include <cstdlib>
6  #include <math.h>
7  using namespace std;
8
9  class Student{
10     int ID;
11     string name;
12     static string file;
13     int marks;
14 public:
15     Student(){
16         ID=marks=0;
17         name="";
18     }
19     Student(int ID, string name, int marks){
20         this->ID=(ID>0)?ID:0;
21         this->name=name;
22         this->marks=(marks>=0)?marks:0;
23     }
24     void setID(int ID){this->ID=(ID>0)?ID:0;}
25     void setName(string name){this->name=name;}
26     void setMarks(int marks){
27         this->marks=(marks>=0)?marks:0;
28     }
29     void setFile(string file){this->file=file;}
30     int getID(){return ID;}
31     int getMarks(){return marks;}
32     string getName(){return name;}
33     static string getFile(){return file;}
34     void print(){
35         cout<<ID<<"\t"<<name<<"\t"<<marks<<endl;
36     }
```

```

37 }
38 string Student::file="result.dat";
39
40 void print();
41 Student search(int ID);
42 void add(Student);
43 void update(int ID);
44 void del(int ID);
45
46 int main(){
47     int choice=1;
48     do{
49         cout<<"Enter 1 to display all records.\n";
50         cout<<"Enter 2 to search in records.\n";
51         cout<<"Enter 3 to add a record.\n";
52         cout<<"Enter 4 to update a record.\n";
53         cout<<"Enter 5 to delete a record.\n";
54         cout<<"Enter 0 to exit the program.\n";
55         cout<<"Choice: "; cin>>choice;
56         if(choice==1){print(); cout<<endl;}
57         else if(choice==2){
58             int ID=0;
59             cout<<"Enter ID: "; cin>>ID;
60             search(ID).print();
61             cout<<endl;
62         }
63         else if(choice==3){
64             int ID=0, marks=0;
65             string name="";
66             cout<<"Enter ID, Name and Marks: ";
67             cin>>ID>>name>>marks;
68             add(Student(ID,name,marks));
69             cout<<endl;
70     }

```

```

69         cout<<endl;
70     }
71     else if(choice==4){
72         int old=0;
73         cout<<"[OLD] Enter ID: "; cin>>old;
74         update(old);
75         cout<<endl;
76     }
77     else if(choice==5){
78         int ID=0;
79         cout<<"Enter ID: "; cin>>ID;
80         del(ID);
81         cout<<endl;
82     }
83     else if(choice!=0){
84         cout<<"[WARNING] Enter Correct Number.\n\n";
85     }
86 }
87 while(choice!=0);
88 }
89
90 void print(){
91     ifstream f(Student::getFile(),ios::binary);
92     while(!f.eof()){
93         Student temp(0,"bb",9);
94         f.read((char *)&temp,sizeof(temp));
95         temp.print();
96     }
97     f.close();
98 }
99 Student search(int ID){
100     ifstream f(Student::getFile(),ios::binary);
101     Student temp;
102     while(!f.eof()){
103         f.read((char *)&temp,sizeof(temp));
104         if(temp.getID()==ID) break;
105     }
106     f.close();
107     return temp;
108 }
109 void add(Student data){
110     ofstream f(Student::getFile(),ios::binary|ios::app);
111     f.write((char *)&data,sizeof(data));

```

```

150     while(!fin.eof()){
151         Student temp;
152         fin.read((char *)&temp,sizeof(temp));
153         fout.write((char *)&temp,sizeof(temp));
154     }
155     fin.close();
156     fout.close();
157

```

OUTPUTS;

Enter 1 to display all records.  
Enter 2 to search in records.  
Enter 3 to add a record.  
Enter 4 to update a record.  
Enter 5 to delete a record.  
Enter 0 to exit the program.

Choice: 3

Enter ID, Name and Marks: 10 Saad 90

Enter 1 to display all records.  
Enter 2 to search in records.  
Enter 3 to add a record.  
Enter 4 to update a record.  
Enter 5 to delete a record.  
Enter 0 to exit the program.

Choice: 3

Enter ID, Name and Marks: 11 Ahmed 80

Enter 1 to display all records.  
Enter 2 to search in records.  
Enter 3 to add a record.  
Enter 4 to update a record.  
Enter 5 to delete a record.  
Enter 0 to exit the program.

Choice: 3

Enter ID, Name and Marks: 12 Khizer 95

Enter 1 to display all records.  
Enter 2 to search in records.  
Enter 3 to add a record.  
Enter 4 to update a record.  
Enter 5 to delete a record.  
Enter 0 to exit the program.

Choice: 3

Enter ID, Name and Marks: 13 Faiz 85

Enter 1 to display all records.  
Enter 2 to search in records.  
Enter 3 to add a record.  
Enter 4 to update a record.  
Enter 5 to delete a record.  
Enter 0 to exit the program.

Choice: 2

Enter ID: 12

12 Khizer 95

