

UNIVERSITY OF ENGINEERING AND TECHNOLOGY, TAXILA



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*SOFTWARE ENGINEERING*

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**LAB-10 SOLUTION**

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REG NO : 20-SE-56

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## TASK-1

Make a program that uses a structure named student and contains two members namely **Roll number** and **PF Score**. Roll number should be initialized at the start of program. User can enter PF Score of **at most 3 students**. Make use of switch statement, do while loop or goto to repeatedly display the main menu.

## SOLUTION

## CODE

The screenshot displays a C++ IDE with the following components:

- Menu Bar:** File, Edit, View, Search, Project, Build, Debug, Fortran, vsSmith, Tools.
- Toolbar:** Standard IDE icons for file operations, editing, and debugging.
- Project Explorer:** Shows a project named "20-SE-56 LAB 10 SOLUTION.cpp" with a workspace containing "20-SE-56 LAB 10 SOLUTION" and "Sources".
- Code Editor:** Contains the following C++ code:
 

```

1  #include<iostream>
2  #include<iomanip>
3  #include<conio.h>
4  #include<cctype>
5  #include<cmath>
6  using namespace std;
7
8
9  //DECLARING A STRUCTURE FOR STUDENT RECORD
10 struct student
11 {
12     //INITIAL DATA WHEN THERE IS NO INPUT
13
14     string Reg_No="0";
15     int Pf_Score=0;
16 }
17
18 int main ()
19 {
20     student stdnt1;
21     student stdnt2;
22     student stdnt3;
23
24     char choice_1;
25     char choice_2;
26
27
28
29
30     cout<<"\n ***** Main Menu *****\n";
31     do
32     {
33         menu:
34         cout<<"\t Press 1 to Enter Student Record "<<endl;
35         cout<<"\t Press 2 to Display Student Record "<<endl;
36         cout<<"\t Press 3 to exit "<<endl;
37     }
      
```
- Log & others:** A panel at the bottom showing the compiler output:
 

```

Run: Debug in 20-SE-56 LAB 10 SOLUTION (compiler: GNU GCC Compiler)
Checking for existence: C:\CodeBlocks\project\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe
Det. variables: PATH=C:\CodeBlocks\MinGW\bin;C:\CodeBlocks\MinGW\bin;C:\Windows\System32\cmd;C:\Windows\System32\OpenSSH\;C:\MinGW\bin;C:\Users\hpi\AppData\Local\Microsoft\WindowsApps
Executing: "C:\CodeBlocks\cb_gcc_compiler.exe" "C:\CodeBlocks\project\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe" (in C:\CodeBlocks\project\20-SE-56 LAB 10 SOLUTION\.)
      
```
- Status Bar:** Shows the current file path: "C:\CodeBlocks\project\20-SE-56 LAB 10 SOLUTION\20-SE-56 LAB 10 SOLUTION\20-SE-56 LAB 10 SOLUTION.cpp".

\*20-SE-56 LAB 10 SOLUTION.cpp [20-SE-56 LAB 10 SOLUTION] - CodeBlocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools- Plugins DoryBlocks Settings Help

Management Projects Files FSymbols Workspace 20-SE-56 LAB 10 SOLUTION Sources

```
38 cin>>choice_1;
39
40 //SWITCH STATEMENT TO SELECT BETWEEN ABOVE THREE CHOICES
41 switch(choice_1)
42 {
43
44     case '1':
45     {
46
47
48         cout<<endl<<endl;
49         cout<<"\t press 1 for 1st student record"<<endl;
50         cout<<"\t press 2 for 2nd student record"<<endl;
51         cout<<"\t press 3 for 3rd student record"<<endl;
52         cout<<"\t press 4 for return to main menu"<<endl;
53         cout<<"\t press 5 to exit \n"<<endl;
54
55         start:
56         cout<<endl<<"\t Enter your choice"<<endl;
57
58         cin>>choice_2;
59         cout<<endl;
60         switch(choice_2)
61         {
62
63             //CASE 1 ,CASE 2,CASE 3 ARE FOR 3 STUDENTS WHILE CASE 4 WILL RETURN TO MAIN MENU CASE 5 WILL EBD THE PROGRAMME
64             case '1':
65             {
66
67                 cout<<endl;
68                 cout << "Enter Reg_No: ";
69                 cin >>stdnt1.Reg_No;
70                 cout<<endl;
71                 cout << "Enter PF Marks ";
72                 cin >> stdnt1.Pf_Score;
73                 cout<<endl;
74                 goto start;
75                 break;
76
77             }
```

Logs & others

CodeBlocks X Search results X Cccc X Build log X Build messages X CppCheck/Ver++ X CppCheck/Ver++ messages X Cscope X Debugger X DoryBlocks X Fortran info X Closed files list X Thread search X

----- Run: Debug in 20-SE-56 LAB 10 SOLUTION (compiler: GNU GCC Compiler)-----

Checking for existence: C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe

Set variable: PATH=C:\CodeBlocks\MinGW\bin;C:\CodeBlocks\MinGW\bin;C:\Windows\System32;C:\Windows\System32\cmd;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\MinGW\bin;C:\Users\hp\AppData\Local\Microsoft\WindowsApps

Executing: "C:\CodeBlocks\cb\_console\_runner.exe" "C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe" (in C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\.)

C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\20-SE-56 LAB 10 SOLUTION.cpp C/C++ Windows (CR-LF) WINDOWS-1252 Line 68, Col 15, Pos 2212 Insert Modified Read/Write default

\*20-SE-56 LAB 10 SOLUTION.cpp [20-SE-56 LAB 10 SOLUTION] - CodeBlocks 20.03

File Edit View Search Project Build Debug Fortran wxSmith Tools Tools- Plugins DoryBlocks Settings Help

Management Projects Files FSymbols Workspace 20-SE-56 LAB 10 SOLUTION Sources

```
76
77     case '2':
78     {
79
80         cout << "Enter Reg_No: ";
81         cin >> stdnt2.Reg_No;
82         cout << "Enter PF Marks ";
83         cin >> stdnt2.Pf_Score;
84         goto start;
85         break;
86
87     }
88
89     case '3':
90     {
91
92         cout << "Enter Reg_No: ";
93         cin >> stdnt3.Reg_No;
94         cout << "Enter PF Marks ";
95         cin >> stdnt3.PF_Score;
96         goto start;
97         break;
98
99     }
100
101     case '4':
102     {
103         goto menu;
104         break;
105     }
106
107     case '5':
108     {
109         exit(0);
110     }
111 } // IT IS END OF SWITCH choice_1
112 break;
113
114
```

Logs & others

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----- Run: Debug in 20-SE-56 LAB 10 SOLUTION (compiler: GNU GCC Compiler)-----

Checking for existence: C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe

Set variable: PATH=C:\CodeBlocks\MinGW\bin;C:\CodeBlocks\MinGW\bin;C:\Windows\System32;C:\Windows\System32\cmd;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\MinGW\bin;C:\Users\hp\AppData\Local\Microsoft\WindowsApps

Executing: "C:\CodeBlocks\cb\_console\_runner.exe" "C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe" (in C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\.)

C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\20-SE-56 LAB 10 SOLUTION.cpp C/C++ Windows (CR-LF) WINDOWS-1252 Line 68, Col 15, Pos 2212 Insert Modified Read/Write default

```
108         case '5':
109             {
110                 exit(0);
111             }
112             // IT IS END OF SWITCH choice_1
113             break;
114
115         // END OF CASE 1 OF STUDENT RECORD
116
117
118         case '2':
119             //CASE 2 TO DISPLAY ALL INPUT STUDENT RECORD
120             {
121
122                 cout<<setw(20)<<"Roll No."<<setw(20)<<"PF Score"<<endl<<endl;
123                 cout<<setw(20)<<stdnt1.Reg_No<<setw(20)<<stdnt1.Pf_Score<<endl<<endl;
124                 cout<<setw(20)<<stdnt2.Reg_No<<setw(20)<<stdnt2.Pf_Score<<endl<<endl;
125                 cout<<setw(20)<<stdnt3.Reg_No<<setw(20)<<stdnt3.Pf_Score<<endl<<endl;
126
127                 break;
128             }
129
130         case '3':
131             //CASE 3 TO END THE PROGRAMM
132             cout<<"YOU WANTED TO TERMINATE THE PROGRAMM THANK YOU!!!!!!!!!!"<<endl<<endl;
133             exit(0);
134             // end of case power function
135
136         }
137         //ABOVE WHOLE PROGRAMME WILL EXECUTE IF USER PRESS ANY KEY WITHOUT 3
138         while(choice_1 != '3');
139
140         return 0;
141
142
143
144
145
```

Log & other

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----- Run: Debug in 20-SE-56 LAB 10 SOLUTION (compiler: GNU GCC Compiler)-----  
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Executing: "C:\CodeBlocks\ob\_console\_runner.exe" "C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe" (in C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\.)

## OUTPUT

```
"C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe"

***** Main Menu *****
Press 1 to Enter Student Record
Press 2 to Display Student Record
Press 3 to exit
```

```
"C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe"

***** Main Menu *****
Press 1 to Enter Student Record
Press 2 to Display Student Record
Press 3 to exit
2

    Roll No.      PF Score
           0      0
           0      0
           0      0

Press 1 to Enter Student Record
Press 2 to Display Student Record
Press 3 to exit
```

```
"C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe"

***** Main Menu *****
Press 1 to Enter Student Record
Press 2 to Display Student Record
Press 3 to exit
1

    press 1 for 1st student record
    press 2 for 2nd student record
    press 3 for 3rd student record
    press 4 for return to main menu
    press 5 to exit

    Enter your choice
```

```
"C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe"

1      Enter your choice
1
Enter Reg_No: 20-SE-56
Enter PF Marks 20

2      Enter your choice
2
Enter Reg_No: 20-SE-20
Enter PF Marks 30

3      Enter your choice
3
Enter Reg_No: 20-ME-44
Enter PF Marks 60

4      Enter your choice

      Press 1 to Enter Student Record
      Press 2 to Display Student Record
      Press 3 to exit
```

```
"C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe"

2
Enter Reg_No: 20-SE-20
Enter PF Marks 30

3      Enter your choice
3
Enter Reg_No: 20-ME-44
Enter PF Marks 60

4      Enter your choice

      Press 1 to Enter Student Record
      Press 2 to Display Student Record
      Press 3 to exit
2
      Roll No.          PF Score
      20-SE-56          20
      20-SE-20          30
      20-ME-44          60

      Press 1 to Enter Student Record
      Press 2 to Display Student Record
      Press 3 to exit
```

```
"C:\CodeBlocks\projects\20-SE-56 LAB 10 SOLUTION\bin\Debug\20-SE-56 LAB 10 SOLUTION.exe"
3
Enter Reg_No: 20-ME-44
Enter PF Marks 60

Enter your choice
4

Press 1 to Enter Student Record
Press 2 to Display Student Record
Press 3 to exit
2

Roll No.          PF Score
20-SE-56          20
20-SE-20          30
20-ME-44          60

Press 1 to Enter Student Record
Press 2 to Display Student Record
Press 3 to exit
3
YOU WANTED TO TERMINATE THE PROGRAMM THANK YOU!!!!!!!!!!

Process returned 0 (0x0)   execution time : 927.749 s
Press any key to continue.
```