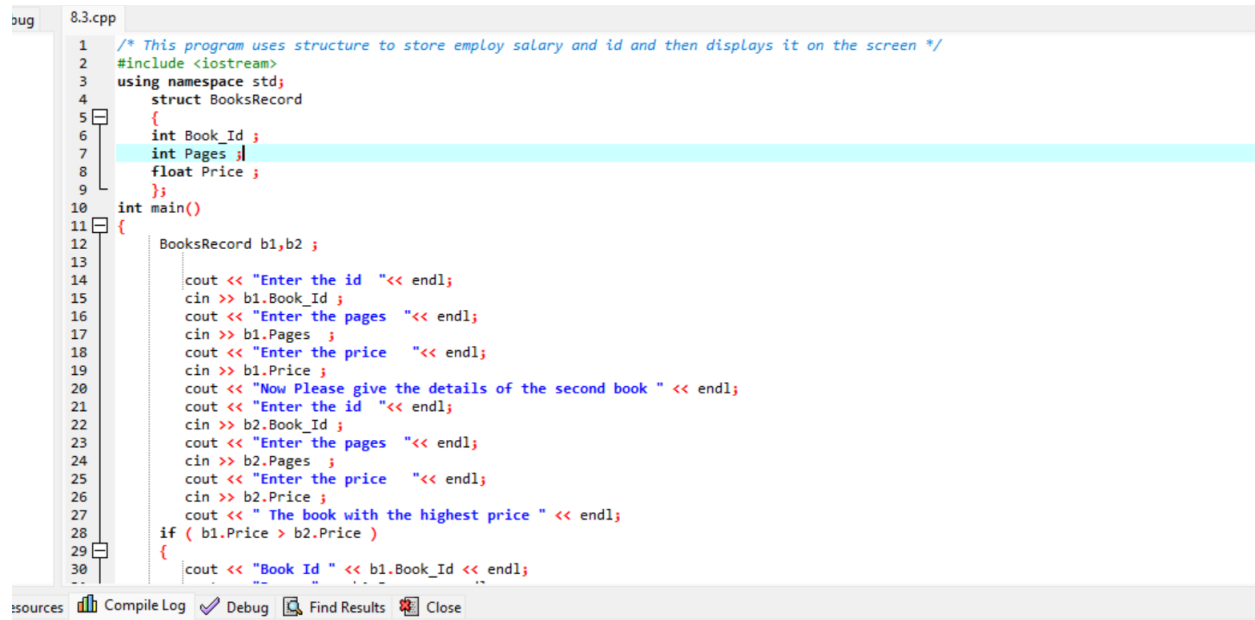**Name : Zeeshan Ali**

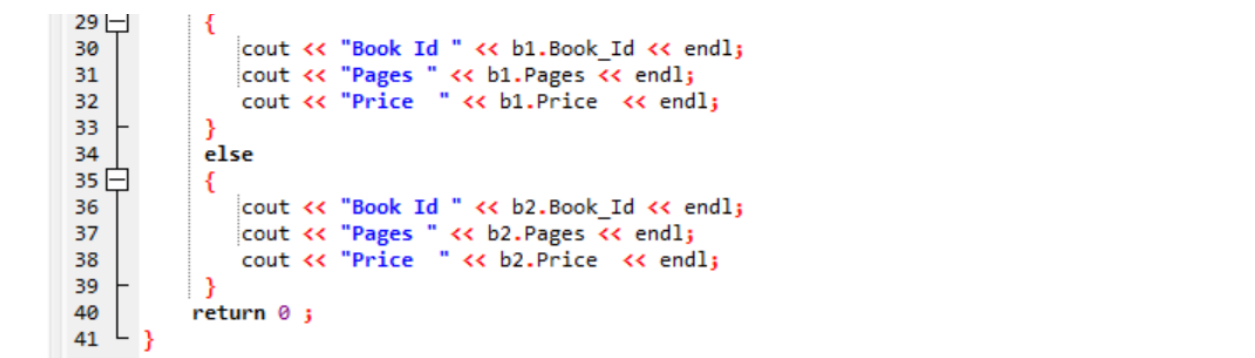**Roll no SU 92-BS ITM-F22-019**

Home Task

Program 8.3

```cpp
8.3.cpp
1   /* This program uses structure to store employ salary and id and then displays it on the screen */
2   #include <iostream>
3   using namespace std;
4       struct BooksRecord
5       {
6       int Book_Id ;
7       int Pages ;
8       float Price ;
9       };
10  int main()
11  {
12      BooksRecord b1,b2 ;
13
14          cout << "Enter the id  "<< endl;
15          cin >> b1.Book_Id ;
16          cout << "Enter the pages  "<< endl;
17          cin >> b1.Pages  ;
18          cout << "Enter the price  "<< endl;
19          cin >> b1.Price ;
20          cout << "Now Please give the details of the second book " << endl;
21          cout << "Enter the id  "<< endl;
22          cin >> b2.Book_Id ;
23          cout << "Enter the pages  "<< endl;
24          cin >> b2.Pages  ;
25          cout << "Enter the price  "<< endl;
26          cin >> b2.Price ;
27          cout << " The book with the highest price " << endl;
28      if ( b1.Price > b2.Price )
29      {
30          cout << "Book Id " << b1.Book_Id << endl;
```

Another part

```cpp
29      {
30          cout << "Book Id " << b1.Book_Id << endl;
31          cout << "Pages " << b1.Pages << endl;
32          cout << "Price  " << b1.Price  << endl;
33      }
34      else
35      {
36          cout << "Book Id " << b2.Book_Id << endl;
37          cout << "Pages " << b2.Pages << endl;
38          cout << "Price  " << b2.Price  << endl;
39      }
40      return 0 ;
41  }
```

```
Enter the id
23
Enter the pages
45
Enter the price
1234
Now Please give the details of the second book
Enter the id
45
Enter the pages
23123
Enter the price
234235
 The book with the highest price
Book Id 45
Pages 23123
Price  234235


-----------------------------------
Process exited after 12.42 seconds with return value 0
Press any key to continue . . .
```

Program 8.4


```cpp
8.3.cpp  8.4.cpp
1    /* This program uses the structure to store employ id and salary  and then displays it on the screen */
2    #include <iostream>
3    using namespace std ;
4      struct Employee_Details
5      {
6        int Id ;
7        int Salary ;
8      };
9    int main()
10   {
11       Employee_Details E ;
12       cout << "Enter your Id please "  << endl;
13       cin >> E.Id ;
14       cout << "Enter your salary please "  << endl;
15       cin >> E.Salary ;
16       cout << "Full Details of the employ salary are " << endl;
17       cout << "Employ Id " << E.Id << endl;
18       cout << "Employ Salary " << E.Salary << endl;
19       return 0 ;
20
21   }
```

```
Enter your Id please
234234
Enter your salary please
458787
Full Details of the employ salary are
Employ Id 234234
Employ Salary 458787

---------------------------------
Process exited after 6.245 seconds with return value 0
Press any key to continue . . .
```

Program 8 .5

```cpp
8.3.cpp   8.4.cpp   8.5.cpp
1    /*This program uses the structure to store the different parts of a number */
2    #include <iostream>
3    using namespace std;
4      struct Phone
5      {
6         int NationalCode ;
7         int AreaCode ;
8         int  Number ;
9      };
10     int main ()
11     {
12        Phone p1 , p2 ;
13        p1.NationalCode = 92 ;
14        p1.AreaCode = 41 ;
15        p1.Number = 2344557 ;
16        cout << "Enter the National code " << endl;
17        cin >> p2.NationalCode ;
18        cout << "Enter the Area code " << endl;
19        cin >> p2.AreaCode ;
20        cout << "Enter the Number  " << endl;
21        cin >> p2.Number  ;
22        cout << "Phone number 1 : " << endl;
23        cout << "+" << p1.NationalCode << "-" << p1.AreaCode << "-" << p1.Number << endl;
24        cout << "Phone number 2 : " << endl;
25        cout << "+" << p2.NationalCode << "-" << p2.AreaCode << "-" << p2.Number << endl;
26     }
```

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```
Enter the National code
94
Enter the Area code
45
Enter the Number
2463532
Phone number 1 :
+92-41-2344557
Phone number 2 :
+94-45-2463532

_____

Process exited after 7.434 seconds with return value 0
Press any key to continue . . . |
```

Program 8.6

```cpp
1   /* This program calculates the gross pay of the employ using the structure */
2   #include <iostream>
3   using namespace std;
4      struct EmployPay
5      {
6         int EmployNumber ;
7         char  EmployFirstName   ;
8         char  EmploySecondName ;
9         int PayRate , NumberOfHours , GrossPay ;
10      };
11   int main()
12   {
13      EmployPay Employee ;
14      cout  << "Enter employ number " << endl;
15      cin >> Employee.EmployNumber ;
16      cout  << "Enter First name " << endl;
17      cin >> Employee.EmployFirstName ;
18      cout  << "Enter Second name " << endl;
19      cin >> Employee.EmploySecondName ;
20      cout  << "Enter number of hours " << endl;
21      cin >> Employee.NumberOfHours  ;
22      cout  << "Enter pay rate  " << endl;
23      cin >> Employee.PayRate ;
24      Employee.GrossPay =  Employee.NumberOfHours  *  Employee.PayRate ;
25      cout << "Full details of the employees are" << endl;
26      cout << "Name " <<  Employee.EmployFirstName << " " <<  Employee.EmploySecondName << endl;
27      cout << "Number " << Employee.EmployNumber << endl;
28      cout << "Number of hours worked " <<  Employee.NumberOfHours  << endl;
29      cout << "Pay Rate  " <<  Employee.PayRate << endl;
30      cout << "Gross Pay " <<     Employee.GrossPay << endl;
```

Program 8.7

```cpp
1   /* Thios program uses the structure to store marks and grades the assign all that to other one and then displays both of them */
2   #include <iostream>
3   using namespace std;
4       struct StudentMarks
5       {
6           int Marks ;
7           char Grades ;
8       };
9       int main()
10      {
11          StudentMarks a ,b ;
12          cout << "Enter the marks " << endl;
13          cin >> a.Marks ;
14          cout << "Enter the grades " << endl;
15          cin >> a.Grades ;
16          b =a ;
17          cout << "Details of the 1st studen are " << endl;
18          cout  << "Marks " << a.Marks  << endl;
19          cout  << "Grades " << a.Grades  << endl;
20          cout << "Details of the 2nd  studen are " << endl;
21          cout  << "Marks " << b.Marks  << endl;
22          cout  << "Grades " << b.Grades  << endl;
23          return 0 ;
24      }
```

asses Debug   8.3.cpp   8.4.cpp   8.5.cpp   8.6.cpp   8.7.cpp

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```
Enter the marks
234
Enter the grades
c
Details of the 1st studen are
Marks 234
Grades c
Details of the 2nd  studen are
Marks 234
Grades c


--------------------------------
Process exited after 5.789 seconds with return value 0
Press any key to continue . . .
```

Program 8.8

```cpp
/* This uses the structures to store the marks of five different subjects and then find the total and average of the marks */
#include <iostream>
using namespace std ;
    struct Student
    {
     int Roll_No ;
     int Marks [5] ;
    };
    int main()
    {
        int Average , Sum ;
     Student r ;
    cout << "Enter your roll no " << endl;
    cin >> r.Roll_No ;
    for ( int i =0 ; i <5 ; i++)
    {
     cout << "Enter your marks " << endl;
     cin >> r.Marks[i] ;
     Sum = Sum + r.Marks[i] ;
    }

    Average = Sum / 5 ;
    cout << "Roll no " << r.Roll_No << endl;
    cout << "Total Marks "  << Sum << endl;
    cout << "Average " << Average << endl;
    }
```

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```
Enter your roll no
19
Enter your marks
100
Enter your marks
100
Enter your marks
100
Enter your marks
100
Enter your marks
100
Roll no 19
Total Marks 500
Average 100

--------------------------------
Process exited after 8.292 seconds with return value 0
Press any key to continue . . .
```