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QUESTION 01: EMPLOYEE RECORD

Write a C program using structures to store and display information of 3 employees. Each employee has:

Employee ID

Name

Salary

Requirements:

1. Define a structure named Employee.

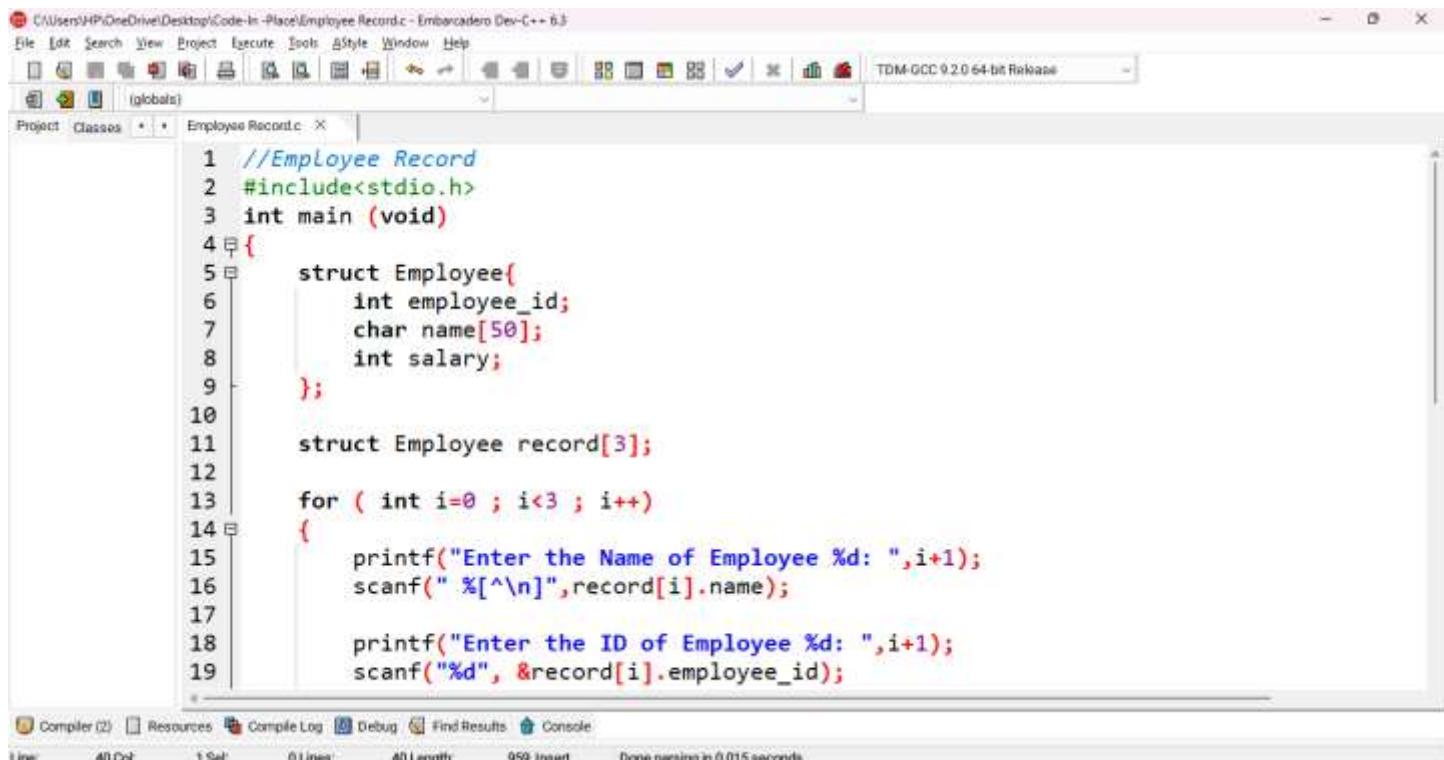
2. Take input for 3 employees.

3. Display their details in a neat format.

Hint:

Use an array of structures

SOURCE CODE:



The screenshot shows the Embarcadero Dev-C++ 6.3 IDE interface. The main window displays the source code for "Employee Record.c". The code defines a structure "Employee" with fields for employee_id, name (50 characters), and salary. An array "record[3]" of this structure is declared. A loop iterates 3 times, prompting the user to enter the name and ID for each employee. The code uses standard C I/O functions like printf and scanf. The IDE's toolbar and status bar are visible at the top and bottom of the window respectively.

```
1 //Employee Record
2 #include<stdio.h>
3 int main (void)
4 {
5     struct Employee{
6         int employee_id;
7         char name[50];
8         int salary;
9     };
10    struct Employee record[3];
11
12    for ( int i=0 ; i<3 ; i++)
13    {
14        printf("Enter the Name of Employee %d: ",i+1);
15        scanf(" %[^\n]",record[i].name);
16
17        printf("Enter the ID of Employee %d: ",i+1);
18        scanf("%d", &record[i].employee_id);
19    }
}
```

C:\Users\HP\OneDrive\Desktop\Code-In-Place\Employee Record.c - Embarcadero Dev-C++ 6.3

```
19     scanf("%d", &record[i].employee_id);
20
21     printf("Enter the Salary of Employee %d: ", i+1);
22     scanf("%d", &record[i].salary);
23
24     printf("\n");
25 }
26
27 printf("\n-----");
28 printf("\n\t\t\tEMPLOYEE RECORD");
29 printf("\n-----");
30
31 for( int i=0 ; i<3 ; i++)
32 {
33     printf("\n Employee %d:\n", i+1);
34     printf("\nName= %s", record[i].name);
35     printf("\nEmployee ID= %d", record[i].employee_id);
36     printf("\nSalary= %d\n", record[i].salary);
37 }
```

Compiler (2) Resources Compile Log Debug Find Results Console

Line: 40 Col: 1 Set: 0 Lines: 40 Length: 959 Insert Done parsing in 0.015 seconds

C:\Users\HP\OneDrive\Desktop\Code-In-Place\Employee Record.c - Embarcadero Dev-C++ 6.3

```
22     scanf("%d", &record[i].salary);
23
24     printf("\n");
25 }
26
27 printf("\n-----");
28 printf("\n\t\t\tEMPLOYEE RECORD");
29 printf("\n-----");
30
31 for( int i=0 ; i<3 ; i++)
32 {
33     printf("\n Employee %d:\n", i+1);
34     printf("\nName= %s", record[i].name);
35     printf("\nEmployee ID= %d", record[i].employee_id);
36     printf("\nSalary= %d\n", record[i].salary);
37 }
38 return 0;
39 }
```

Compiler (2) Resources Compile Log Debug Find Results Console

Line: 40 Col: 1 Set: 0 Lines: 40 Length: 959 Insert Done parsing in 0.015 seconds

OUTPUT:

```
C:\Users\HP\OneDrive\Desktop> Enter the Name of Employee 1: Areefa Samar  
Enter the ID of Employee 1: 25062  
Enter the Salary of Employee 1: 56000  
  
Enter the Name of Employee 2: Waqar Samar  
Enter the ID of Employee 2: 25098  
Enter the Salary of Employee 2: 23000  
  
Enter the Name of Employee 3: Umaiza Samar  
Enter the ID of Employee 3: 256788  
Enter the Salary of Employee 3: 90000  
  
-----  
EMPLOYEE RECORD  
-----  
Employee 1:  
  
Name= Areefa Samar  
Employee ID= 25062  
Salary= 56000  
  
Employee 2:  
  
C:\Users\HP\OneDrive\Desktop>
```

```
C:\Users\HP\OneDrive\Desktop> Enter the Name of Employee 1: Areefa Samar  
Enter the ID of Employee 1: 25062  
Enter the Salary of Employee 1: 56000  
  
Enter the Name of Employee 2: Waqar Samar  
Enter the ID of Employee 2: 25098  
Enter the Salary of Employee 2: 23000  
  
Enter the Name of Employee 3: Umaiza Samar  
Enter the ID of Employee 3: 256788  
Enter the Salary of Employee 3: 90000  
  
-----  
EMPLOYEE RECORD  
-----  
Employee 1:  
  
Name= Areefa Samar  
Employee ID= 25062  
Salary= 56000  
  
Employee 2:  
  
Name= Waqar Samar  
Employee ID= 25098  
Salary= 23000  
  
Employee 3:  
  
Name= Umaiza Samar  
Employee ID= 256788  
Salary= 90000  
  
-----  
Process exited after 74.35 seconds with return value 0  
Press any key to continue . . . |
```

QUESTION 02: STUDENTS MARKS AND AVERAGE

Create a structure called Student to store:

Student name

Roll number

Marks in 3 subjects

Requirements:

Input data for 5 students.

Calculate and display the average marks for each student.

Bonus Challenge:

Display the name of the student with the highest average marks.

SOURCE CODE:

The screenshot shows the Embarcadero Dev-C++ 6.3 IDE interface. The title bar reads "C:\Users\HP\OneDrive\Desktop\Code-In-Place\Students Marks and Average.c - Embarcadero Dev-C++ 6.3". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, Style, Window, Help. The toolbar has various icons for file operations. The status bar at the bottom shows "Line: 37 Col: 36 Sel: 0 Lines: 48 Length: 1023 Insert Done parsing in 0.016 seconds". The code editor displays the following C code:

```
1 //Students Marks and Average
2 #include<stdio.h>
3 #include<string.h>
4 struct Student{
5     char name[100];
6     int roll_no;
7     int marks[3];
8 };
9
10 int main (void)
11 {
12     struct Student s[5];
13     int sum[5];
14     float average[5], highest_average=0;
15     char highest_student[100];
16
17     printf("\nEnter the Student Information:");
18     for ( int i=0; i<5 ; i++)
19     {
20         printf("\n\nStudent %d:",i+1);
21         printf("\nEnter the Name: ");
22         scanf(" %[^\n]s",s[i].name);
```

C:\Users\HP\OneDrive\Desktop\Code-In-Place\Students Marks and Average.c - Embarcadero Dev-C++ 6.3

```
File Edit Search View Project Execute Tools Style Window Help
TDM-GCC 9.2.0 64-bit Release

Project Classes Employee Record.c Students Marks and Average.c

18 |     for ( int i=0; i<5 ; i++)
19 |     {
20 |         printf("\n\nStudent %d:",i+1);
21 |         printf("\nEnter the Name: ");
22 |         scanf(" %[^\n]s",s[i].name);
23 |
24 |         printf("Enter the Roll No: ");
25 |         scanf("%d",&s[i].roll_no);
26 |         printf("\n");
27 |         sum[i]=0;
28 |
29 |         for ( int k=0 ; k<3 ; k++)
30 |         {
31 |             printf("Enter the Marks of Subject %d: ",k+1);
32 |             scanf("%d",&s[i].marks[k]);
33 |             sum[i] += s[i].marks[k];
34 |         }
35 |
36 |         average[i]= sum[i]/3.0 ;
37 |         printf("Average Marks= %.3f",average[i]);
38 |
39 |         if ( average[i]>highest_average)
40 |         {

Compiler (3) Resources Compile Log Debug Find Results Console
Line: 49 Col: 1 Set: 0 Lines: 49 Length: 1025 Insert Done parsing in 0.016 seconds
```

C:\Users\HP\OneDrive\Desktop\Code-In-Place\Students Marks and Average.c - Embarcadero Dev-C++ 6.3

```
File Edit Search View Project Execute Tools Style Window Help
TDM-GCC 9.2.0 64-bit Release

Project Classes Employee Record.c Students Marks and Average.c

27 |     sum[i]=0;
28 |
29 |     for ( int k=0 ; k<3 ; k++)
30 |     {
31 |         printf("Enter the Marks of Subject %d: ",k+1);
32 |         scanf("%d",&s[i].marks[k]);
33 |         sum[i] += s[i].marks[k];
34 |
35 |
36 |         average[i]= sum[i]/3.0 ;
37 |         printf("Average Marks= %.3f",average[i]);
38 |
39 |         if ( average[i]>highest_average)
40 |         {
41 |             highest_average=average[i];
42 |             strcpy(highest_student, s[i].name);
43 |
44 |         }
45 |
46 |         printf("\n\nThe student with highest average marks is %s.",highest_student);
47 |         return 0;
48 |     }

Compiler (3) Resources Compile Log Debug Find Results Console
Line: 49 Col: 1 Set: 0 Lines: 49 Length: 1025 Insert Done parsing in 0 seconds
```

OUTPUT:

```
C:\Users\HP\OneDrive\Desktop> + × - o x  
Enter the Student Information:  
  
Student 1:  
Enter the Name: Areefa Samar  
Enter the Roll No: 62  
  
Enter the Marks of Subject 1: 98  
Enter the Marks of Subject 2: 87  
Enter the Marks of Subject 3: 95  
Average Marks= 93.333  
  
Student 2:  
Enter the Name: Anna Faisal  
Enter the Roll No: 45  
  
Enter the Marks of Subject 1: 78  
Enter the Marks of Subject 2: 65  
Enter the Marks of Subject 3: 42  
Average Marks= 61.667  
  
Student 3:  
Enter the Name: Aameen Fatima  
Enter the Roll No: 58  
  
Enter the Marks of Subject 1: 67  
Enter the Marks of Subject 2: 87  
Enter the Marks of Subject 3: 98  
Average Marks= 84.000
```

```
C:\Users\HP\OneDrive\Desktop> + × - o x  
Enter the Roll No: 58  
  
Enter the Marks of Subject 1: 67  
Enter the Marks of Subject 2: 87  
Enter the Marks of Subject 3: 98  
Average Marks= 84.000  
  
Student 4:  
Enter the Name: Fariya Waseem  
Enter the Roll No: 89  
  
Enter the Marks of Subject 1: 56  
Enter the Marks of Subject 2: 71  
Enter the Marks of Subject 3: 94  
Average Marks= 73.667  
  
Student 5:  
Enter the Name: Samreen Alam  
Enter the Roll No: 43  
  
Enter the Marks of Subject 1: 87  
Enter the Marks of Subject 2: 65  
Enter the Marks of Subject 3: 43  
Average Marks= 65.000  
  
The student with highest average marks is Areefa Samar.  
Process exited after 122.2 seconds with return value 0  
Press any key to continue . . .
```