

NAME: AREEFA SAMAR
ROLL NO: CT-25062
DEPARTMENT: CSIT
SECTION: B

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.

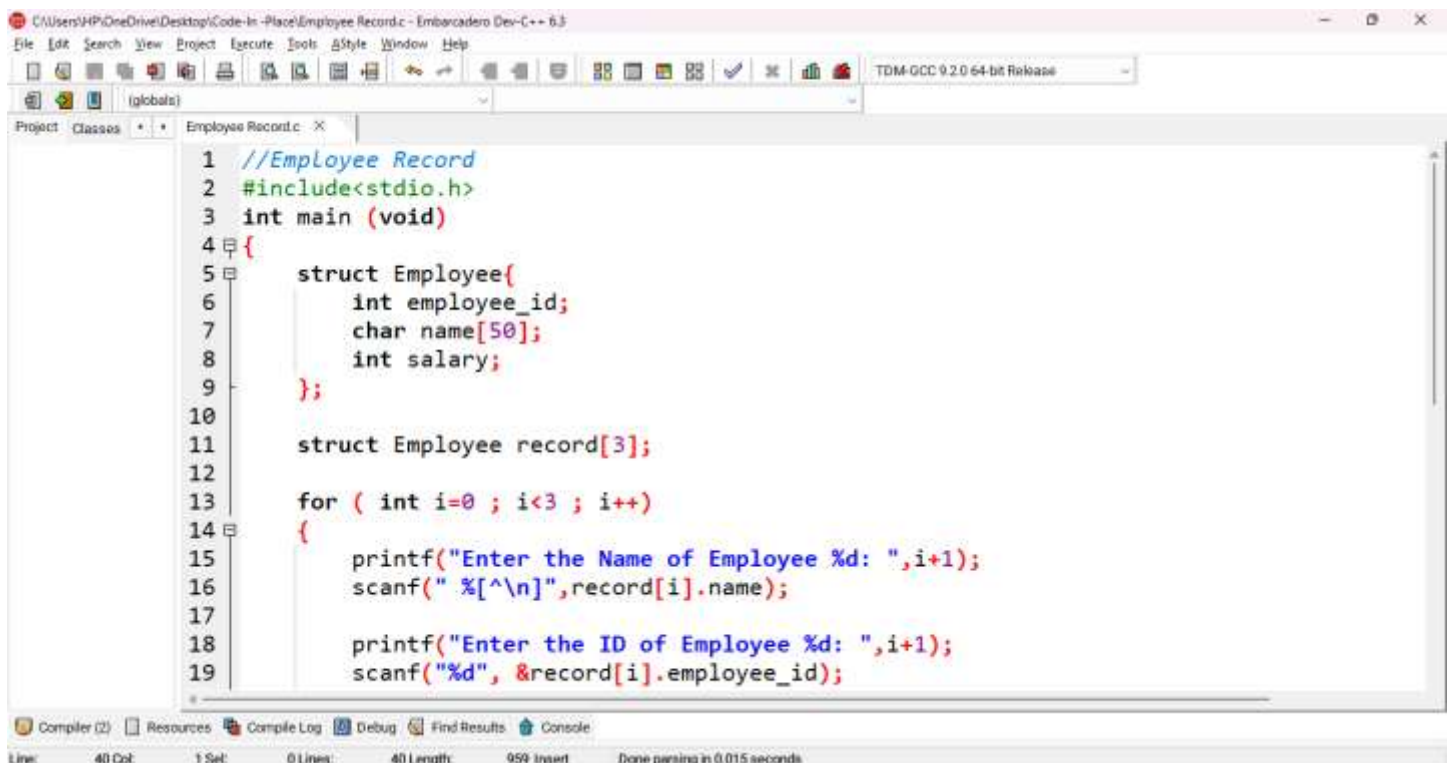
2. Take input for 3 employees.

3. Display their details in a neat format.

Hint:

Use an array of structures

SOURCE CODE:



```
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
11     struct Employee record[3];
12
13     for ( int i=0 ; i<3 ; i++)
14     {
15         printf("Enter the Name of Employee %d: ",i+1);
16         scanf(" %[^\n]",record[i].name);
17
18         printf("Enter the ID of Employee %d: ",i+1);
19         scanf("%d", &record[i].employee_id);
```

The screenshot shows a C program in an IDE. The code defines a structure named 'Employee' with fields 'employee_id', 'name', and 'salary'. It then declares an array of 'Employee' structures named 'record' of size 3. A loop is used to take input for each employee, prompting for their name and ID. The code is written in a standard C style with comments and proper indentation.

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

File Edit Search View Project Execute Tools Style Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project Classes Employee Record.c

```
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-----\n");
28 printf("\n\t\t\t\t\tEMPLOYEE RECORD");
29 printf("\n-----\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 Sel: 0 Lines: 40 Length: 959 Insert Done parsing in 0.015 seconds

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

File Edit Search View Project Execute Tools Style Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project Classes Employee Record.c

```
22 scanf("%d", &record[i].salary);
23
24 printf("\n");
25 }
26
27 printf("\n-----\n");
28 printf("\n\t\t\t\t\tEMPLOYEE RECORD");
29 printf("\n-----\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 }
40
```

Compiler (2) Resources Compile Log Debug Find Results Console

Line: 40 Col: 1 Sel: 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 >

-----
                        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:

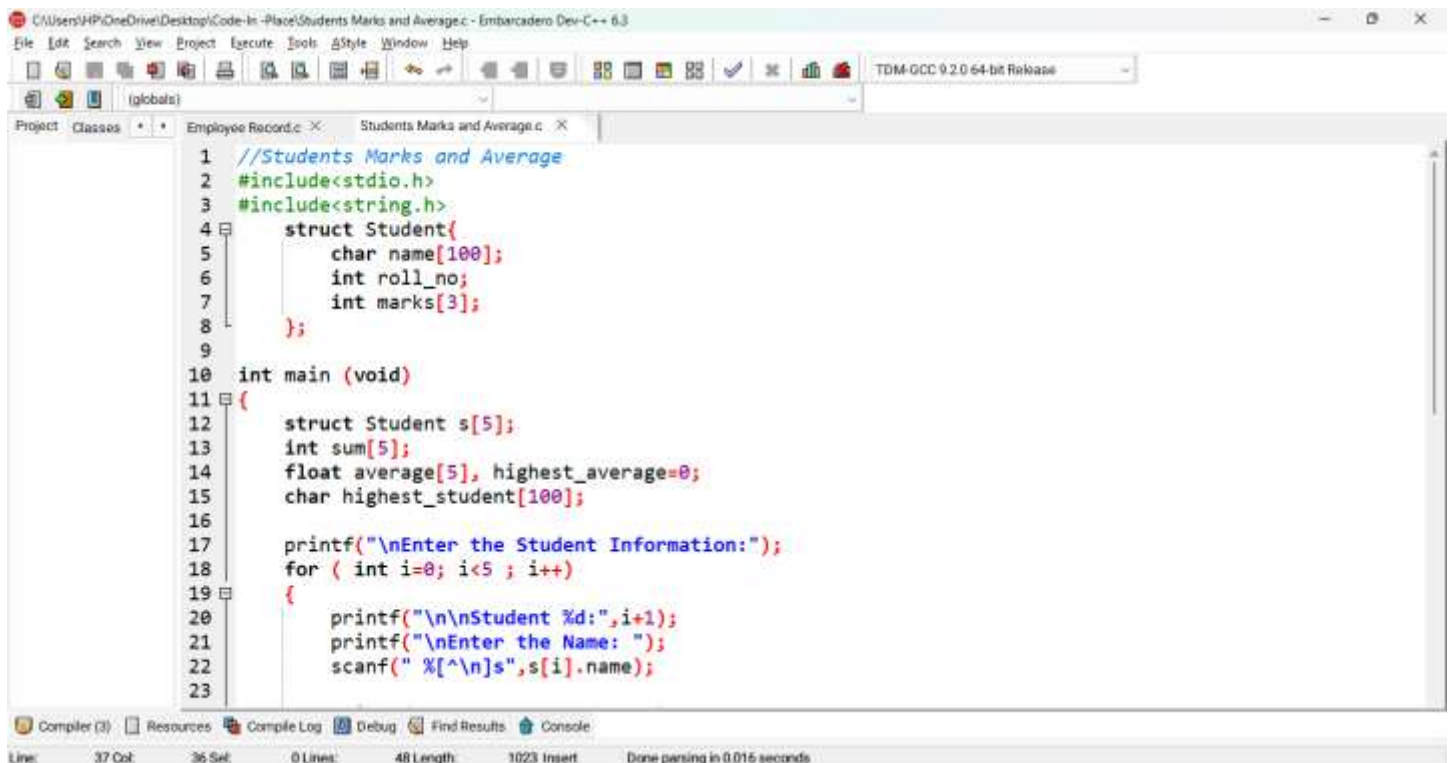
Input data for 5 students.

Calculate and display the average marks for each student.

Bonus Challenge:

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

SOURCE CODE:



```
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);
23     }
```

The screenshot shows the Embarcadero Dev-C++ IDE with the file 'Students Marks and Average.c' open. The code defines a 'Student' structure with fields for name, roll number, and marks in three subjects. The main function uses an array of 5 'Student' structures to store input data for 5 students. It includes a loop to read the name for each student. The status bar at the bottom indicates 37 Col, 36 Set, 0 Lines, 48 Length, 1023 Insert, and 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 *
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 Sel: 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 Sel: 0 Lines: 49 Length: 1025 Insert: Done parsing in 0 seconds

OUTPUT:

```
C:\Users\HP\OneDrive\Desktop >
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: Amna 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 >
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 . . .
```