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Assignment No.: 13	
Course Name	Programming in C Lab
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Branch	CSE
Class	C-1
Academic Year & Semester	2023-2024 & Semester 2
Date of Performance	15/04/2024
Assignment Title (Full):	Write a C program using structures to print the pay slip of an employee after accepting details like id. no, name, designation, department and basic salary.
<p>Theory: (Note: According to the assignment title, please write the background information as an introduction, then write the steps/logic/process/algorithm of the C program in the Journal Notebook, and add its screenshot in the below theory response.)</p>	
<p>Theory Response:</p> <ul style="list-style-type: none">• Define two structs: Salary containing basic, gross, allowance, and tax; Employee containing id, name, designation, department, and a Salary struct.• Create a Calculate function to compute allowance, tax, and gross salary based on the basic salary.• Create an Insert function to input employee details including ID, name, designation, department, and basic salary, then calculate the salary components using Calculate.• Create a Display function to show a tabular format of employee details including computed gross, basic, allowance, and tax.• In main, prompt user for number of entries, create an array of Employee structures based on input, call Insert for each entry, then display all entries using Display.	
<p>Output: (Note: Execute the C program as per the assignment title, take an input code and output result screenshot with the date and time from your computer, and add its screenshot in the below output response.)</p>	

Output Response:

```
1  #include <stdio.h>
2
3  struct Salary {
4      float basic;
5      float gross;
6      float allowance;
7      float tax;
8  };
9
10 struct Employee {
11     int id;
12     char name[50];
13     char designation[50];
14     char department[50];
15     struct Salary BS;
16 };
17
18 void Calculate(struct Employee *e) {
19     e->BS.allowance = (0.2) * e->BS.basic;
20     e->BS.tax = (0.1) * e->BS.basic;
21     e->BS.gross = e->BS.basic + e->BS.allowance - e->BS.tax;
22 }
23
24 void Insert(struct Employee *e) {
25     printf("\nEnter ID: ");
26     scanf("%d", &e->id);
27     getchar();
28     printf("\nEnter Name: ");
29     scanf("%[^\\n]s", e->name);
30     getchar();
31     printf("\nEnter Designation: ");
32     scanf("%[^\\n]s", e->designation);
33     getchar();
34     printf("\nEnter Department: ");
35     scanf("%[^\\n]s", e->department);
36     getchar();
37     printf("\nEnter Basic Salary: ");
38     scanf("%f", &e->BS.basic);
39     Calculate(e);
40 }
41
42 void Display(struct Employee e[], int size) {
43     printf("\n\n
44     -----\\n\\
45     ID      Name      Designation      Gross      Basic      Allowance      Tax\\n\\
46     -----\\n");
47
48     for(int i=0;i<size;i++){
49         printf("      %-4d      %-10s      %-15s      %-10.2f      %-10.2f      %-10.2f      %-10.2f\\n",\\
50             e[i].id,e[i].name,e[i].designation,e[i].BS.gross,e[i].BS.basic,e[i].BS.allowance,e[i].BS.tax);
51     }
52     printf("\\n");
53 }
54
55 int main() {
56     int n;
57     printf("\\nEnter the number of entries: ");
58     scanf("%d",&n);
59     struct Employee emp[n];
60     for(int i=0;i<n;i++){
61         printf("\\nEnter Entry %d:\\n",i + 1);
62         Insert(&emp[i]);
63     }
64     Display(emp,n);
65     return 0;
66 }
```

Enter the number of entries: 3

Entry 1:

Enter ID: 10

Enter Name: Faheem

Enter Designation: CEO

Enter Department: Executive

Enter Basic Salary: 99999

Entry 2:

Enter ID: 20

Enter Name: Sanidhya

Enter Designation: C00

Enter Department: Executive

Enter Basic Salary: 90000

Entry 3:

Enter ID: 30

Enter Name: Rut

Enter Designation: Sales Head

Enter Department: Marketing

Enter Basic Salary: 75000

ID	Name	Designation	Gross	Basic	Allowance	Tax
10	Faheem	CEO	109998.90	99999.00	19999.80	9999.90
20	Sanidhya	C00	99000.00	90000.00	18000.00	9000.00
30	Rut	Sales Head	82500.00	75000.00	15000.00	7500.00

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Conclusion: (Note: Write the key findings or outcome from this assignment, enlist their potential real-world applications in Journal Notebook, and add its screenshot in the below conclusion response.)

Conclusion Response:

This program defines structures for Salary and Employee, calculates salary components using a separate function, and then allows the user to input multiple employee records with associated details and basic salary. The calculated salary details are displayed in a formatted table. This approach promotes modularity and encapsulation by organizing functionalities into discrete functions (Calculate, Insert, Display) and leveraging the power of structures to represent complex data.

Please note that assignment content can be readable.

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