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| **Ex No: 14** | Generate salary slip of employees using structures and pointers. |

**AIM**

To generate salary slip of employees using structures and pointers.

**ALGORITHM**

Step 1: Read the number of employees (N)  
Step 2: Read allowance, deductions and basic for each employee  
Step 3: netpay = (basic + allowance) – deductions  
Step 4: Display the salary details of each employee

**PRE-LAB QUESTIONS**

1. Define structure in C
2. What are the advantages of unions over structures
3. Differentiate arrays and structures
4. Differentiate static and dynamic memory allocation
5. What is self-referential structure

**PROGRAM**

#include "stdio.h"

#define MAX 10

struct emp

**{**

int empno **;**

char name**[**20**];**

float basic**,** allowance**,** deduction**,** netpay **;**

**};**

void getDetails**(**struct emp **\*,** int **);**

void display**(**struct emp **\*,** int**);**

int main**(**void**)** **{**

struct emp staff**[**MAX**];**

int N**;**

printf**(**"Enter Number of employees(<= %d):"**,** MAX**);**

scanf**(**"%d"**,** **&**N**);**

getDetails**(**staff**,**N**);**

display**(**staff**,** N**);**

**return** 0**;**

**}**

void getDetails**(**struct emp **\*** staff**,** int N**)**

**{**

int i**;**

**for(**i**=**0**;** i **<** N**;** i**++)**

**{**

printf**(**"Employee # %d\n"**,** i**+**1**);**

printf**(**"Enter name:"**);**

scanf**(**"%s"**,** staff**[**i**].**name**);**

printf**(**"Enter basic pay:"**);**

scanf**(**"%f"**,** **&**staff**[**i**].**basic**);**

printf**(**"Enter allowance:"**);**

scanf**(**"%f"**,** **&**staff**[**i**].**allowance**);**

printf**(**"Enter deduction:"**);**

scanf**(**"%f"**,** **&**staff**[**i**].**deduction**);**

staff**[**i**].**netpay **=** staff**[**i**].**basic **+** staff**[**i**].**allowance **–**

staff**[**i**].**deduction**;**

**}**

**}**

void display**(**struct emp **\*** staff**,** int N**)**

**{**

int i**;**

**for(**i**=**0**;** i **<** N**;** i**++)**

**{**

printf**(**"\n\nSalary slip for employee # %d\n"**,** i**+**1**);**

printf**(**"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n"**);**

printf**(**"Name: %s \n"**,** staff**[**i**].**name **);**

printf**(**"Basic pay: Rs. %.2f \n"**,** staff**[**i**].**basic**);**

printf**(**"Allowance: Rs. %.2f \n"**,** staff**[**i**].**allowance**);**

printf**(**"Deduction: Rs. %.2f \n"**,** staff**[**i**].**deduction**);**

printf**(**"Net pay: Rs. %.2f \n"**,** staff**[**i**].**netpay**);**

printf**(**"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n"**);**

**}**

**}**

**INPUT**

Enter Number of employees ( <= 10) : 2

Employee # 1

Enter name: John

Enter basic pay: 10000

Enter allowance: 2500

Enter deduction: 780.50

Employee # 2

Enter name: Bob

Enter basic pay: 15000

Enter allowance: 2000

Enter deduction: 600.50

**OUTPUT**

Salary slip for employee # 1

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Name: John

Basic pay: Rs. 10000.00

Allowance: Rs. 2500.00

Deduction: Rs. 780.50

Net pay: Rs. 11719.50

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Salary slip for employee # 2

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Name: Bob

Basic pay: Rs. 15000.00

Allowance: Rs. 2000.00

Deduction: Rs. 600.50

Net pay: Rs. 16399.50

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**POST-LAB QUESTIONS**

1. Illustrate the self referential structure with example
2. Illustrate the dynamic memory allocation for a structure with example

**RESULT**

Thus the C program to generate salary slip of employees using structures and pointers was successfully written and executed.