

## NESTED STRUCTURES

A structure can be placed within another structure is called nesting of structures. Structures can contain other structures as members. Nested structure is also called as *structure within structure*.

### Declaration of nested structure

There are two ways to declare nested structure in c language:

- a) By separate structure
- b) By Embedded structure

### Separate structure

We can create 2 structures, but dependent structure should be used inside the main structure as a member.

#### Syntax

```
struct structure1
{
    -----
    -----
};
struct structure2
{
    -----
    -----
    struct structure1 v1;
}v2;
```

#### Example

```

struct Date
{
    int dd;
    int mm;
    int yyyy;
};
struct Employee
{
    int id;
    char name[20];
    struct Date doj;
}emp1;
    
```

#### a) Embedded structure

We can define structure within the structure also. It requires less code than previous way. But it can't be used in many structures.

#### Syntax:

```

struct structure1
{
    ---
    ---
    struct structure2
    {
        E
        x
        a
        m
        p
    } v1;
}v2;
    e
    
```

```
---          ---  ---  
struct Employee  
  
{  
  
    int id;  
  
    char name[20];  
  
    struct Date  
    {  
  
        int dd;  
        int mm;  
        int yyyy;  
  
    }doj;  
  
}emp;
```

**Program**

```
#include <stdio.h>
#include<conio.h>
struct Employee
{
    char name[20];
    int  no;
    float salary;
    struct  date
    {
        int  date;
        int  month;
        int  year;
    }doj;
}emp;

void main()
{
    printf("\nEnter Employee Name : ");

    scanf("%s",&emp.name);

    printf("Employee number:");

    scanf("%d",& emp.no);

    printf("\nEnter Employee Salary : ");
```

```
scanf("%f",&emp.salary);
printf("\nEmployee DOJ : ");
scanf("%d/%d/%d", &emp.doj.date,&emp.doj.month,&emp.doj.year);
printf("*****Employee information");
printf("\nEmployee Name : %s",emp.name);
printf("\nEmployee Number : %d",emp.no);
printf("\nEmployee Salary : %f",emp.salary);
printf("Employee DOJ: %d/%d/%d",emp.doj.date,emp.doj.month, emp.doj.year );
getch();
}
```

**Output :**

```
Employee Name : Jayden
Employee Number : 1000
Employee Salary : 1000.500000
Employee DOJ   : 22/6/1990
```