

STRUCTURE AND UNION IN C

FAQs

- **What is a structure?**

A structure is a derived data type in C used to organize a group of related data items having different data types.

- **How can we initialize structure elements?**

A structure element can be initialized in its definition itself with a list of initializers enclosed within the braces. Each initializer must be a constant expression and the order and type of each member must match the order and type of its declaration. For example:

```
struct student
{
char name [20];
int rollno;
float fees;
char division;
};
struct student s1 = {"arun", 11, 3200, 'A'};
```

- **What you mean by nested structure?**

If a structure contains one or more structures as its members, it is known as nested structure. For example,

```
struct student
{
    char name[20];
    int rollno;
    float fees;
    struct date dob;
} s;
```

Here the structure date has been made as the member of structure student.

- **Illustrate the concept of array of structures.**

A group of structures may be organized in an array resulting in an array of structures. Each element in the array is a structure.

Suppose we need to store data of 100 students. Then we would be required to use 100 different structure variables from **s1** to **s100**, which is definitely not very convenient. A better approach would be to use an array of structures. For example,

.....

```
struct student
{
int rollno;
float fees;
char division;
} s[100];
```

Here we define an array of 100 structures. Each structure variable s[0], s[1],..., s[100] contains structure as its values. The members can be accessed as

```
S[0].rollno
S[1].fees
```

- **What is an union in C?**

A union can be considered as a special type of structure. It is a derived data type that permits different types of data items in which each member shares the same block of memory. A union behaves as a storage buffer capable of holding different data types. In structure each member has its own storage location, whereas all the members of a union use the same location. That is even though the union may contain many members of different types, it can handle only one member at a time. Like structure, a union can be declared using the keyword union.