

UNIT-7 STRUCTURES

Structure is user defined datatype in C which allows to combine data items of different kind.

Eg: Structure is used to represent a record.
Attributes of a book

* title

* author

* subject

* Book ID

Defining a structure:

* struct is the keyword to use a structure.

* struct defines new datatype with more than one member

```
struct [structure tag]  
{
```

member definition;

....

```
} [one or more structure variables];
```

↓ optional

Example:

```
struct Books
```

```
{
```

```
char title[50];
```

```
char author[50];
```

```
char subject[100];
```

```
int BookID;
```

```
} book;
```

Array of structures:

* Array of structure is used to store many information of different data types.

* Array of structures is also known as collection of structures.

Example: Structure with array that stores information of 5 students and prints it

```
#include <stdio.h>
```

```
#include <string.h>
```

```
struct student
```

```
{
```

```
    int rollno;
```

```
    char name[10];
```

```
};
```

```
int main()
```

```
{
```

```
    int i;
```

```
    struct student st[5];
```

```
    printf("Enter records of 5 students");
```

```
    for(i=0; i<5; i++)
```

```
    {
```

```
        printf("\n Enter Rollno:");
```

```
        scanf("%d", &st[i].rollno);
```

```
        printf("\n Enter Name:");
```

```
        scanf("%s", &st[i].name);
```

```
    }
```

```
    printf("\n Student Information List");
```

```
    for(i=0; i<5; i++)
```

```
    {
```

```
        printf("\n RollNo: %d, Name: %s",
```

```
              st[i].rollno, st[i].name);
```



```
}  
    return 0;  
}
```

Output:

Enter Records of 5 students

Enter Rollno: 1

Enter Name: John

Enter Rollno: 2

Enter Name: Jacob

Enter Rollno: 3

Enter Name: James

Enter Rollno: 4

Enter Name: Rita

Enter Rollno: 5

Enter Name: Sita

Student Information List

RollNo: 1, Name: John

RollNo: 2, Name: Jacob

RollNo: 3, Name: James

RollNo: 4, Name: Rita

RollNo: 5, Name: Sita