

10-06-2024

STRUCTURES

STRUCTURE:- It is a collection of dis-similar datatypes.
It is used to store records.

SYNTAX:-

struct name (optional) (Data) → STRUCTURE OPERATOR

struct name (optional)

{
type member 1;

type member n;

};

P.x

P.y

P.z

P	S	32	4.8
---	---	----	-----

Ex:-

→ main ()

{

struct alud // blue print

{

char x; // members

int y;

float z;

};

struct alud p = {'x', 64, 4.8};

printf ("%c %d %f", p.x, p.y, p.z);

}

O/p:-

x 64 4.80000

→ main ()

```
{  
    struct alud
```

```
{
```

```
    char x[20];
```

```
    int y;
```

```
    float z;
```

```
};
```

```
struct alud p = {"happy", 64, 4.8};
```

```
printf ("%s %d %f", p.x, p.y, p.z);
```

```
}
```

→ main ()

```
{
```

```
    struct abcd // blue print
```

```
{
```

```
    char x[20]; // members
```

```
    int y;
```

```
    float z;
```

```
};
```

```
struct abcd p = {"hello", 20, 5.8}, q, r;
```

```
q = p;
```

```
strcpy (r.x, p.x); r.y = p.y; r.z = p.z;
```

```
printf ("%s %d %f", r.x, r.y, r.z);
```

```
printf ("%s %d %f", q.x, q.y, q.z);
```

```
if (p == q)
```

```
    printf ("equal");
```

```
else
```

```
    printf ("not equal");
```

```
}
```

%p:-

happy 64 4.80000

→ E ROR

→ main ()

```
{ struct abcd // blue friend  
  {  
    char x[20]; // members  
    int y;  
    float z;  
  };
```

```
struct abcd p[20];  
int i, m;  
printf ("enter n");  
scanf ("%d", &m);  
printf ("enter student details");  
for (i=0; i<m; i++)  
  scanf ("%s %d %f", p[i].x, &p[i].y, &p[i].z);  
for (i=0; i<m; i++)  
  printf ("%s %d %f\n", p[i].x, p[i].y, p[i].z);  
}
```


Nested Structures:-

→ main ()

```
{
    struct dob;
    {
        int d, m, y;
    };
    struct stud //blue print
    {
        char x[20];
        int y;
        float z;
        struct dob db;
    };
    struct stud p[20];
    int i, m;
    printf ("enter m");
    scanf ("%d", &m);
    printf ("enter student details ");
    for (i=0; i<m; i++)
        scanf ("%s %d %f %d %d %d", p[i].x, &p[i].y,
            &p[i].z, &p[i].db.d, &p[i].db.m, &p[i].db.y);

    for (i=0; i<m; i++)
        printf ("%s %d %f %d %d %d \n", p[i].x, p[i].y,
            p[i].z, p[i].db.d, p[i].db.m, p[i].db.y );
}
```