A self-refrential structure is a struct datatype in C, where one or more of its elements are pointer to variables of its own type.

They are used to build complex and dynamic data structures such as linkedlists & trees.

Syntax

```
struct typename {
    type mem1;
    type mem2;
    .
    .
    struct typename *ptr;   → refers to structure of same type
};
```

example:

```
#include<stdio.h>
struct mystruct
{
    int a;
    struct mystruct *b;
};
void main()
{
    struct mystruct x={10,NULL},
                    y={20,NULL},
                    z={30,NULL};
```

```
struct mystruct *p1, *p2, *p3;
    p1 = &x;
    p2 = &y;
    p3 = &z;
    x.b = p2;
    y.b = p3;
Printf("Address of x : %d a : %d address of
                    next : %d \n", p1, x.a, x.b
Printf("Address of y : %d a : %d address of
                    next : %d \n", p2, y.a, y.b);
Printf("Address of z : %d a : %d address of
                    next : %d \n", p3, z.a, z.b);
}
```

O/P:

Addr. of x : 1000 a : 10 Addr of next : 2000
Addr. of y : 2000 a : 20 Addr. of next : 3000
Addr. of z : 3000 a : 30 Addr. of next : 0