

C-141 ⇒ Types of storage classes in C

Part-1 ⇒ auto storage class

* when we declare a variable we should know about the related things of storage classes like;

int x;

* default value of variable

* scope of variable

- program
- fun/method
- Block

* storage/location

* life time

Types of Storage class:-

* Automatic

* Register

* Static

* External

Automatic (auto) storage class:-

Eg. auto int x;

* The default value of auto storage class variable will be garbage values.

Eg. #include <stdio.h>

X auto int x = 30;

X → program scope not allowed for auto

int main()

{

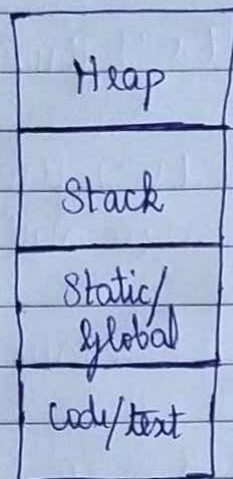
auto int x = 10;

```
{
  auto int x;
  printf("%d", x); => garbage value.
}
```

```
3 printf("%d", x); => 10
```

* This auto storage class have only function and block scope; it cannot have program scope. [for all its local variables]

* Lifetime of auto storage class variables is within the function or block.



* Storage / location of auto storage class local variable will be stored in stack memory section.

NOTE:-

* If we not use/specify the storage class of a variable then by default it is considered as auto storage class variable.

— int x; → auto storage class variable
by default


```
1 #include <stdio.h>
2 #include <stdlib.h>
3 /** 27 - auto Storage Classes in C **/
4
5 auto int x=30; //Program scope not allowed for auto storage class variables
6
7 int main()
8 {
9     auto int x=10;
10    {
11        auto int x;
12        printf("%d",x);
13    }
14    printf("%d",x);
15 }
16
17 //auto int x=10; or int x=10;
18
```

Logs & others

File	Line	Message
D:\1. C C++\... \C C++\...	5	error: file-scope declaration of 'x' specifies 'auto'
=== Build failed: 1 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ===		

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 /** 27 - auto Storage Classes in C **/
4
5 //auto int x=30; //Program scope not allowed for auto storage class variables
6
7 int main()
8 {
9     auto int x=10; //auto int x=10; or int x=10;
10    {
11        auto int x; //auto int x; or int x;
12        printf("%d\n",x);
13    }
14    printf("%d\n",x);
15 }
16
17
18
```

Logs & others

File	Line	Message
------	------	---------

```
16
10

Process returned 0 (0x0)   execution time : 0.047 s
Press any key to continue.
```