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1. auto
2. register
3. extern
4. Static

A resource can be a function, variable, data types etc.

Scope : to whom resource is accessible/known

Life : time span till which memory is retained in alive/ in use state

Keywor	Scope	Life	Memory From	Default value
auto	Block	Block	Stack section	Garbage
register	Block	Block	CPU register	Garbage
extern	Program	Progra	Data Section	0
static	Block	Progra	Data section	0

1. Each variable which is locally declared inside block is by default in nature auto.
2. Use of auto keyword is option

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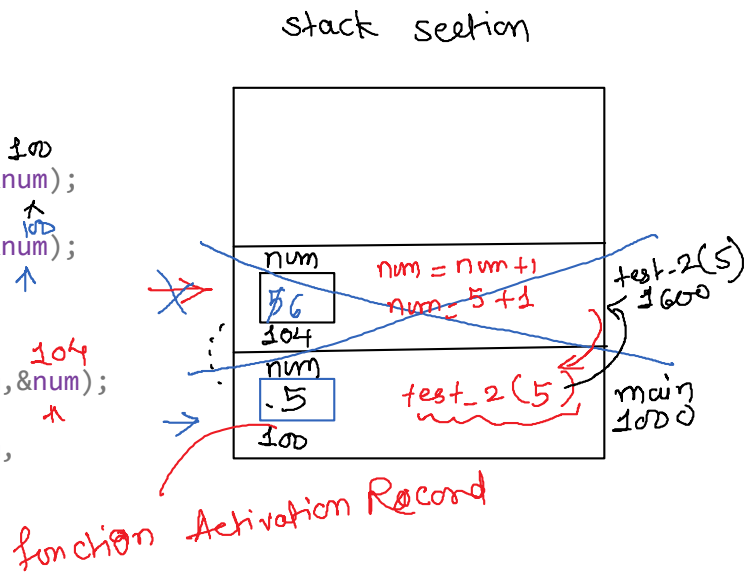
```c
int main()
{
    int num = 5;
    printf("inside main num =%d &num=%u \n",num,&num);
    test_2(num);
    printf("inside main num =%d &num=%u \n",num,&num);
}
void test_2(int num)
{
    printf("inside test_2 num =%d &num=%u \n",num,&num);
    num ++;
    printf("inside test_2 num =%d &num=%u \n",num,
&num);
}
```



In case of pass by value local copy of called function gets modified and where calling function's data remains safe without any change

A Function activation Record is also called as stack frame It contains local variables, formal parameters, return address, return value register, temporaries

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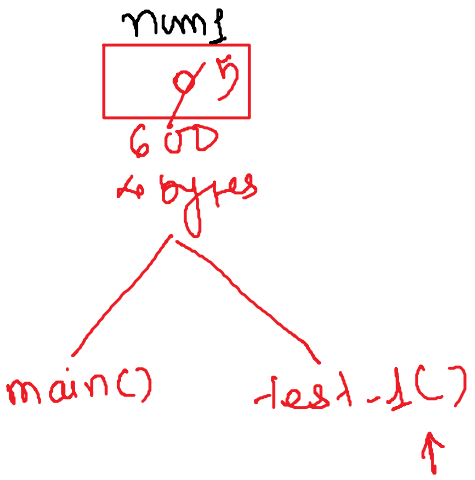

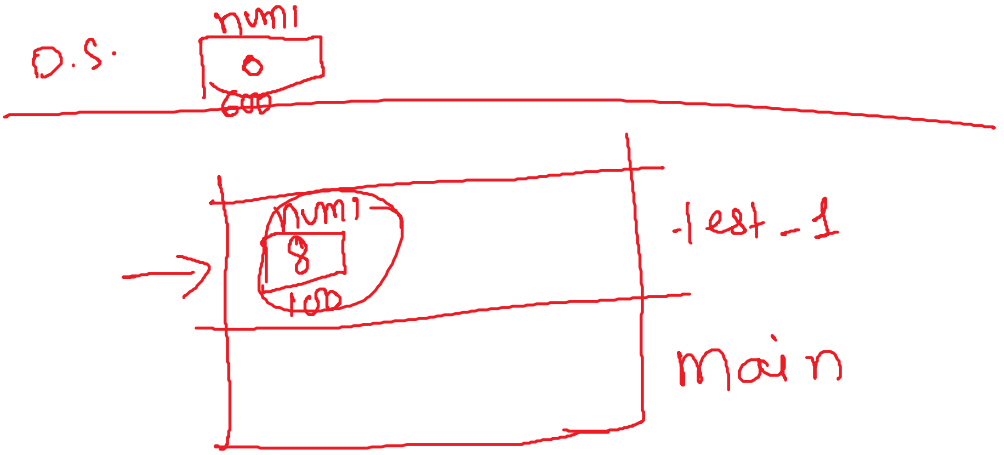

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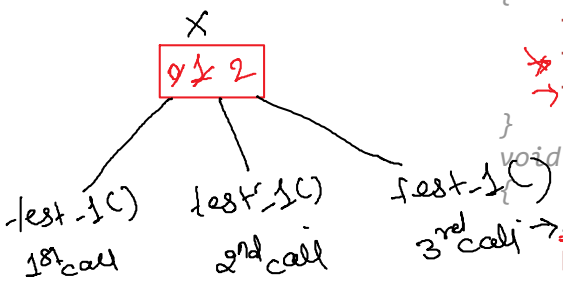
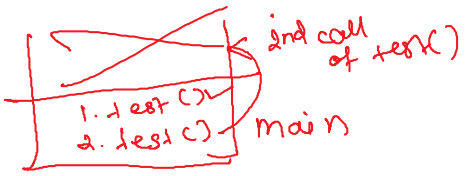
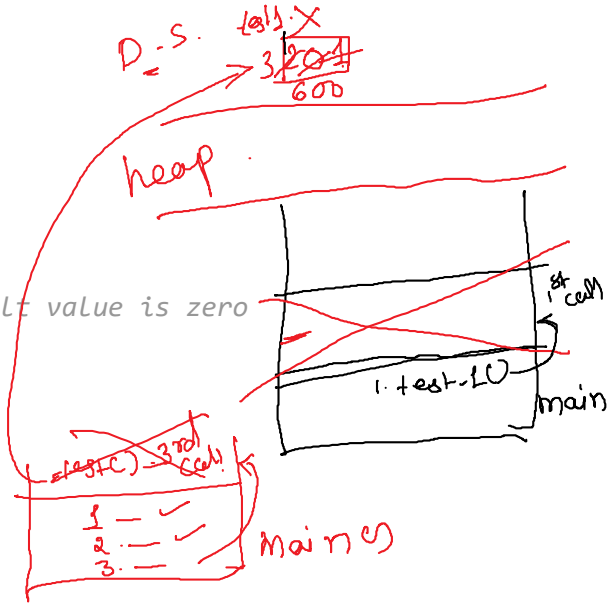



```c
int main()
{
    test_1();
    test_1();
    test_1();
}
void test_1()
{
    static int x; //default value is zero
    printf("x=%d \n",x);
    x++;
}
```



0 1 2



if in global int x = 5

one.c ✓ two.c ✓ three.c ✓

global — static int x=5

one.c ✓ two.c ✗ three.c ✗