Day -17 of 101 days of codding challenge

----------Heap----------

- ⇨ It allocates memory at run time by using the new keyword.
- ⇨ As much as size we can allocate as per requirements.
- ⇨ As heap pointes to the memory address so we can use it through out program.
- ⇨ Dangling Pointer:- Memory address is available but value is not there into the memory.

Code:-

```
#include<iostream>

using namespace std;

int main()
{
	int *p = new int; // declare dynamic memory which points by p variable
	*p = 100;

	cout<<"Value of p:"<<*p<<endl;
	cout<<"Address of the p:"<<p<<endl;

	delete(p); // for memeory deallocation but still it will point the memory address (dangling pointer)

	cout<<"value of p after deallocating:"<<*p<<endl;
	cout<<"Address of the p after deallocating:"<<p<<endl;

	p = new int[7]; // allocating array into the memory address of p
```

```
    delete[] p; // now it will delete the memory pointed by the p

    p = NULL ; // assigned null value so that it will not keep memory
address(fully deallocation)

    cout<<"Address of the p after assigning the null value:"<<p<<endl;
    return 0;
}
```

Output:

```
Value of p:100
Address of the p:0x801540
value of p after deallocating:8395328
Address of the p after deallocating:0x801540
Address of the p after assigning the null value:0

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Process exited after 0.06804 seconds with return value 0
Press any key to continue . . .
```