**Memory Management**

* Typical memory representation of c have following sections-

1. Text segment – coding part
2. initialized data segment – contains all the global and static variables
3. uninitialized data segment – contain all the declared but uninitialized data.
4. Stack – it adjoins the heap area and when the stack pointers meets heap pointers

Free memory gets exhausted.

1. Heap – where dynamic memory allocation usually takes place.

* we can deallocate dynamic allotted memory without using free() function by suing realloc(ptr,0) function.
* Dynamic memory allocation - is a procedure where size of a data structure is changed during runtime.
* DMA takes place under stdlib.h header file.
* Malloc() – memory allocation – dynamically allocates a single large block of memory with specified size. It initialized each block with default garbage value.
* Calloc() – contigous allocation - used to dynamically allocate the specified number of blocks of memory of the specified type. It initialized each block with the default value 0.
* Free() – used to dynamically deallocate the memory. It helps to reduce wastage of memory by freeing it.
* Realloc() – reallocation – used to dynamically change the memory allocation of previously allocated memory.
* Malloc takes single argument and calloc takes 2 arguments.
* *When memory allocation is done, the actual heap space allocated is one word larger than the requested memory. The extra word is used to store the size of the allocation and is later used by free( ).*
* Realloc() – is used only for dynamically reallocate the dynamically allocated memory.
* Memory leak occurs when we create a memory and forget to delete it.