Functions for Dynamic Memory Allocation in C
. In Dynamic memory allocation, the memory is allocated at run time from the heap segment.
In ognation the hora segment.
at non time prior
· We have four functions that help us achieve this
task.
·malloc ()
· reallocu
Mallor ()
· malloc () stands for memory allocation. The neserves a block of memory with the given amount
. It reserves a block of memory with the given amount
1 1 10
. The neturn value is a void pointen to the allocated
. thereframe the void pointer needs to be castled is the
anapplainte type as per the suguinement.
. If however if the coale is unsufficient, allocation of
memony fails and it returns a NULL pointer.
Tans
· All the valvey at allocated memory are initialized to
garbase values
·Syntax
ptn = (ptn-type *) malloc (size_in_bytes)
PRODUCTION OF THE PRODUCTION O
int xptn;
ptn= (int *) malloc (3x sizeof(int));

Callocui
· calloce stands for continue - Maria
· It reserves n blocks of memory with the given amount of bytes.
allocated space.
appropriate type as need to be casted to the
fails and it neturn a NULL minder
Syntan Syntan at allocated memory are initialized to 0.
ptn= (ptn-type *) calloc (n, size-ofin-bytes);
int ptn + = pt (int +) calloc (3, sizeof(int));
Realloc () &
· neallocation.
we can change the size of previously allocated memory is insufficient
using realloc () function.
Syntax
ptn = (ptn-type *) Snealloc (ptn, new-size_in-bytes);
ptn = (int x) sealloc (ptn, 5 * Sizeof (int))

Freel · freed is used to free the allocated memory

· It the dynamically allocated memory is not required

anymone, we can free it using free function.

· This will free the memory using being used by the program in the heap. · Syntax fnee (ptn) Code #include < Stdio.h> # include < stdlib.47 ind main() // Use of malloc 17 int *ptn; printf("Enter the size of the array you want to Chease (m"); Scanf (" 1.d", &n); ptn = (int *) mallo((n * sizeof(int)); for (int i=0; i<n; i+1) prints (" Enter the value of no %d of this away in", i) & Scanfl " %d", & Ptocis);

fon Cin+ i= o signsita) paintf("The value of at 1.d of this away is ".d m", i, pto[i]); 11 use of calloc print (" Enter the size of the army you want to create m"); PIn = (in+ x) calloc (& n, sizeof(int)); for (int izosichsitt) printd(" Enter the value no %d of this array in", i); Scanf (" ", & ptoris); for (int i=o)knsitt) prints (" The value at 1.d of this amony is 1.d In i, pantig);

11 Use of realloc printf ("Enter the size of the new array you want to Scanf ("7.d", &n); pts = (int x) seasoc (pts, nxsizeof(int)); for (int i=0 : i < n : i++) print ("Enter the new value no Y.d of this any in", i for (int isosiknsith) printfl"The new value at Y.d of this array is free (pts);