Dynamic memory suocation

Dynamic memory altercation in changuage enables the c programmer to allocate memory at runtime Dynamic memory allocation in changuage is possible by 4 functions of Addib. In header file

- 1) malloc () Used for allocating the memory
- 2) calloc () For allocating the number
- 3) realloc () For up dating the number
- 4) free () Deletting the monoxy

Difference between static and dynamic memorey allocation

static memory allo cation agranic memory allo cation

- 1) memory es allocated at 1) memory is allocated compile time. at run time
 - 2) memory can't be incleased 2) memory can be uncewhile executing program ased while executing program-
 - 3) used in vargay 3) used in Linkellist.

Syntan

malloc: int * p = (int *) malloc (n * size of(int));

callec's

uit *p= (int *) calloc (n, rige of (int));

free: free (*p);

Calloc () Malloc () callo(() is DMA Malloe () & DMA function function used for used for allocating mimory allocation memory syntan is unt * p = int * (malloc) (int * P=(lint*) n * sig of (live)); ralloc Manory is rallocated in Henroey is allocated in different bloke. single belock. Défault value is galeage Here défault value Value is zero Dynamic memory vallocation / trample Foe malloc() [1 malloc () # include < stdio. h> # include < stdlib. h> Ent main () } int * P' wit i, h; posit / 1" Enter the large ("); Scang (" . 1. d", &n) p - (int *) malloc (n * 11 ge of (int)); fol (1=0; i< ny (++)

```
P[i] = (+19
 perintf (" The value assigned are (");
  por (1=0; (<n; 1++)
   pecial+ (" 1/d/n", (* p+i));
malloc
  # include < Atdio, h>
  * include Letalth, h>
    jut main ()
     int n, i, *ptr, sum=0;
   paintf ('Enter neurless of elements; ');
   Many (" . Ind ", & M);
     ptr=(uit*) malloc (n* size) (uit));
      if (Ptr == NULL)
      I perint ! " Error I memory not allocated ");
      exit(0);
      3 paint + ( tentel elements of accord ");
      - for (i=0; i<n; i++)
        I scarry ("1.d', ptv+i).
          Sumtex (ptv+1);
         Petit ("sum of = 1.d", sum);
     3 free (ptr)
         Letuno;
```

```
1 Calloc
 # include ( stdio W)
 # include Estalels.h
   int main ()
    int * P;
    int i,n;
    perint (" Enter the range (n ");
     scany (41/1d 1, &n);
     P=(int *) (alloc (n, size of (int));
     for (i=o; icn; i+t)
     P(i) = i+1;
     perints (" the value welighed are \");
    for (i=0; izh;i+t)
      perint f 111.1. din", * (P+i));
```

```
# include ( ptdio. b)
# include ( Atdlib h)
 lut main ()
  int n, i, *p+r, sum=0;
  peritt (" Entre the number of dements; ");
  scanf ("1.d", on);
 pt+=(wit+) calloc (n, rige of (int));
  if (pty = = NULL)
     perint (" Error! manary not allocated.");
   exit(0);
     paintf (" Enter Elements of colory ? ")
      for (i=0; icn; i++)
     Scang ("1.d"; ptx+i);
     Sumt=* (pti+i)
      puit + (" sum'ld", sun),
      fore (PT1);
      extremo;
```

```
# include & Atdio. W
# include (Atdlib. 47
4 include (Atting. 1)
   int main ()
  Chae * MB
   Int m1, mi;
   M1=15/
  M 2 = 20
   P1 = (Chae) malloc(mi);
   Stropy (Pi, "Nahatma Gandhi"),
   PI = (mae*) scalloc (PI, m2);
   Streat (P1, " Enetitate of Technology");
   printf [1.1.514", P1);
   setuliro;
```