Name: Roll: Branch: Section:

Semester: Subject: Date: Signature:

Dynamic Memory Allocation

malloc() → allocates a memory block of given size (in bytes) and returns a pointer to the beginning of block. but it doesn't initialize the allocated memory.

Calloc() → allocates memory and also initializes every byte in the allocated memory to 0.

malloc() takes single argument (No of bytes to be allocated)
calloc() — two — (No of blocks to be allocated, size of each block in bytes)

→ NULL is returned if memory allocation is failure

malloc()

ptr = (cast-type *) malloc (byte-size)

ptr = (int *) malloc (100 * sizeof (int));

→ It allocates 400 bytes.

calloc

ptr = (cast-type *) calloc (n, element-size);

ptr = (float *) calloc (25, sizeof (float));

→ allocates contiguous space in memory for 25 elements each with size of float.

(8)

free() →

free(ptr);

It releases the memory

or deallocate the memory dynamically

realloc():

used to dynamically change the memory allocation of previous allocated memory.

ptr = realloc(ptr, newSize);

where ptr is reallocated with new size

ptr = (int *) realloc(ptr, n * sizeof(int));