Heap allocation more concretely

➡ Manage contiguous range of logical addresses

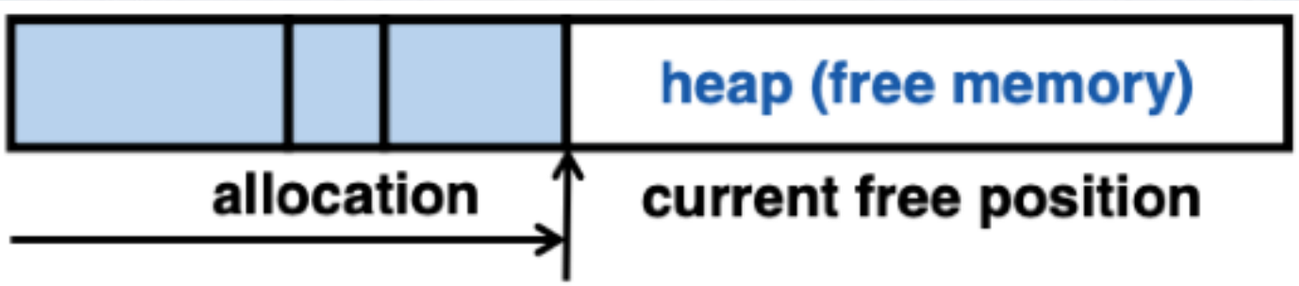
- `malloc(size)` returns a pointer to a block of memory of at least `size` bytes, or `NULL`

- `free(ptr)` releases the previously- allocated block pointed to by `ptr`

Why is heap allocation hard?

➡ Satisfy arbitrary set of allocation and frees.

✓ Easy without free : set a pointer to the beginning of some big chunk of memory (heap) and increment on each allocation



◉ Problem : free creates holes (fragmentation)
Lots of free space but cannot satisfy request!