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Malloc
What is this: This is an enhanced version of malloc. We can detect problems or circumstance that the regular malloc function wonâ€™t pick up at run time. An example can be trying to malloc something that is already freed

Runtime Description and Speed:

myMalloc dynamically allocates a piece of new memory using a sorted list struct. With that struct we are able to identify the size of the memory and the place we are holding it. We print out identifiers based on the events that take place in malloc. This method runs at an O(n) linear speed because it needs to find the pointer to the specific memory block.

myFree frees or removes any previously dynamically allocated memory. If the memory block we are trying to free was never freed we print a message to the user informing them of the circumstance. Everything is a O(n) linear time look up because we use a sorted list to check if a piece of memory is freed or not. With that we can look up the piece of memory we are trying to free in linear time in the worst case.

When the program allocates all the memory: which is a 1024 bytes as seen in
sorted-list.c in line 82. The program will dislplay an error statement and
gracefully exit.