In my lab I tested for palindromes, sorted the characters of the palindrome, and tested for type and order. Testing for palindrome functioned correctly and no errors were reported. Merge sort of the palindrome functions correctly and turned up no errors. Palindrome order function works properly after tweaking a bit. But the palindrome type function does not work correctly for me. It always outputs a type 2 palindrome no matter what word you type in.

1. What is the big O runtime of each of these components of the lab individually?
   1. Palindrome detector – 0(1)
   2. Merge sort – 0(log N)
   3. Order and type determination - 0(N)
2. What is the big O space complexity (memory) of each of these components of the lab individually?
   1. Palindrome detector – I have no idea where we learned how to mesure memory.
   2. Merge sort
   3. Order and type determination
3. What is the big O runtime of a complete program loop that performs all functions on a user-inputted string?

The big O runtime for the complete program is a O(1)

1. What is the big O space complexity (memory) of a complete program loop that performs all functions on a user-inputted string?

I don’t know how to figure this out.