CSCI 3333 Practice Quiz TRIE1

**Problem 1.** In Figure 1, complete the drawing of a trie that contains the strings “1100”, “01”, “111”, “0101”, “11”, “1101”, “101”, and “1011”.

![Figure 1](image1.png)

Figure 1: The partial trie for Problem 1.

**Problem 2.** In Figure 2, complete the drawing of a trie that contains the strings “acac”, “acba”, “aca”, “acc”, “ba”, “ca”, “cb”, “cab”, “ccaa”, “ccbc”, “cc”, and “ccc”.

![Figure 2](image2.png)

Figure 2: The partial trie for Problem 2.
Problem 3. Fill in the blanks with answers based on the trie in Figure 3.

There are _________ strings in the trie and the longest string in the trie is _________.

Inserting _________ would cause no new nodes to be created.

Erasing _________ from the trie would cause 2 nodes to be erased.

Figure 3: The trie for Problem 4.

Problem 4. Fill in the blanks with answers about tries.

The longest string in a trie of height 3 has length _________.

There are at most _________ binary strings in a trie of height 4.

There are at most _________ binary strings in a trie of height $h$.

There are at most _________ strings from the alphabet ’a’ through ’z’ in a trie of height 2.