CSCI-14 Assignment #4, if/else programming (40 points) – due 10/1/18

Write a C++ program that takes a single character and prints the corresponding digit on the touchtone telephone keypad, if it exists, or a message stating that the character does not correspond to a digit on the keypad. Use the following grouping for the letters and digits on the keypad:

2 = ABC  3 = DEF  4 = GHI  5 = JKL
6 = MNO  7 = PRS  8 = TUV  9 = WXY

Note that there are no corresponding digits for Q or Z, and that there are no lower-case letters or non-alphabetic characters on the standard telephone keypad. We're not using a modern text-messaging cell phone here; we're talking about the old-style telephone keypad. Therefore, for Q or Z, your program should report that there is no corresponding digit; and for any lower-case letter or for any non-alphabetic character your program should print a general "that's not a capital letter" message.

Use good programming style with meaningful identifier names, careful and consistent indentation, and appropriate comments. Your major code structure must be a cascaded if-else structure, not a series of independent if statements. Notice that much of the output will be essentially the same for the digits on the keypad. Do not repeat a message like "The letter X corresponds to the digit Y on the keyboard", with different values of X and Y, in several places in the code. Instead, use a single output statement with string literals for the unchanging text for the letter-and-corresponding-digit message, and use variables to hold the changing values to print. You MAY NOT use a switch() statement for this: you MUST use nested or cascaded if/else structures. It will require several, possibly nested.

For example:

Enter a single letter and I will tell you the digit it corresponds to on the telephone keypad:
A
The character A corresponds to the digit 2 on the keypad.

Enter a single letter and I will tell you the digit it corresponds to on the telephone keypad:
Q
Q doesn't correspond to any digit on the keypad.

Enter a single letter and I will tell you the digit it corresponds to on the telephone keypad:
a
The character a is not a capital letter.

Test your program with at least one letter from each group, Q, Z and several other characters. Again, only code and print the text for any message in a single place – do not repeat similar messages.