**LOGIC:**

*Task 2*

* In the data section we create the appropriate prompts and assign space for the users string input.
* In the text section, we first print a prompt asking the user to input a string. Then we read that string and store.
* We then load the users input into $s0 and initialize $t0, with 0. To act as an index.
* We move onto ConvertUpperCase which will loop until we reach the end of the string.
* We add $s0 and $t0 to $s1. This will act like we are iterating through the users input. According to the value of $t0, we skip that many letters from the start of the input.  
  For example, if $t0 = 2 and the users input string is, ‘abcd’. Then $s1 will have, cd stored in it. In a way skipping the first 2 letters of the input string.
* We move on to load the first letter from $s1 into $t3.
* The exit condition is when $t3 = 0. i.e., the end of the string
* Then there is a block of code, which compares each lower-case alphabet with the letter loaded into $t3. When it matches the letter, it branches to that letter’s appropriate label.  
  Where that lower case letter is replaced with its upper-case version in the string. And we jump back to the start of ConvertUpperCase.
* Since the letter is already upper case, we go on and increment $t0 by 1. And we loop over, ConvertUpperCase.
* Now with $t0 incremented, the next letter of the input string is loaded, and the same process is performed on it.
* When there is a non-alpha character, it is skipped and we only increment $t0.
* Once we reach the end of the string, we exit the loop and branch to, PrintString.
* Here we print some text, saying that the following is the upper-case version of the original input.
* We then print the upper-case version of the input string and jump to, Exit.
* Here we simple terminate the program gracefully.

*Task 3*

* Task 3 performs in the exact same way as Task2. But instead converts all lowercase letters to upper case.
* In the data section we create the appropriate prompts and assign space for the users string input.
* In the text section, we first print a prompt asking the user to input a string. Then we read that string and store.
* We then load the users input into $s0 and initialize $t0, with 0. To act as an index.
* We move onto ConvertLowerCase which will loop until we reach the end of the string.
* We add $s0 and $t0 to $s1. This will act like we are iterating through the users input. According to the value of $t0, we skip that many letters from the start of the input.  
  For example, if $t0 = 2 and the users input string is, ‘abcd’. Then $s1 will have, cd stored in it. In a way skipping the first 2 letters of the input string.
* We move on to load the first letter from $s1 into $t3.
* The exit condition is when $t3 = 0. i.e., the end of the string
* Then there is a block of code, which compares each upper-case alphabet with the letter loaded into $t3. When it matches the letter, it branches to that letter’s appropriate label.  
  Where that upper case letter is replaced with its lower-case version in the string. And we jump back to the start of ConvertLowerCase.
* Since the letter is already lower case, we go on and increment $t0 by 1. And we loop over, ConvertLowerCase.
* Now with $t0 incremented, the next letter of the input string is loaded, and the same process is performed on it.
* When there is a non-alpha character, it is skipped and we only increment $t0.
* Once we reach the end of the string, we exit the loop and branch to, PrintString.
* Here we print some text, saying that the following is the lower-case version of the original input.
* We then print the lower-case version of the input string and jump to, Exit.
* Here we simple terminate the program gracefully.

**REFRENCE:**

https://stackoverflow.com/questions/28574833/iterating-through-and-modifying-a-string-in-mips