

## Lab 8-9

1-)

1. Write a program that reads in a sentence and displays the count of individual vowels in the sentence. Use any output routine of your choice to display the result in this format. Count only the lowercase vowels. Repeat the operation until an empty string is entered.

```
Vowel counts for the sentence
      Mary had a little lamb.
# of 'a' : 4
# of 'e' : 1
# of 'i' : 1
# of 'o' : 0
# of 'u' : 0
```

2-)

Write a program that prints the number of uppercase letters in an input string. Use the class method `isUpperCase` of the `Character` class, which returns true if the passed parameter of type `char` is an uppercase letter. You need to explore the `Character` class from the `java.lang` package on your own. Repeat the operation until an empty string is entered.

3-)

1. Finding the complement of a given DNA strand is another common operation. The double helix of DNA is composed of two complementary strands. Because the base pairs are formed by pairing A with T and G with C, we can easily find the complement of a given DNA strand by simple substitutions. For example, the complement of GATTCGATC is CTAAGCTAG. Write a program that outputs the complement of a given DNA strand. Repeat the operation until an empty string is entered.

4-)

Write a program that determines if an input word is a palindrome. A palindrome is a string that reads the same forward and backward, for example, *noon* and *madam*. Ignore the case of the letter. So, for example, *maDaM*, *MadAm*, and *mAdaM* are all palindromes. Repeat the operation until an empty string is entered.