Lab 7 External Documentation   
CPSC 1150 – W02

**Program** Count Vowels

**File Name:** CountVowels.java

**Purpose:** Count number of vowels in a sentence.

**Input:** String – full name

**Output:** Int – number of vowels

**Algorithm:**

BEGIN

1. Input sentence.
2. Call method numberOfVowels.

END.

BEGIN numberOfVowels(string sentence)

1. Convert sentence to lowercase.
2. Init vowels as “aeiou”, count as 0.
3. For each character in the sentence:
   1. If the character exists in vowels, increase count by 1
4. Return count.

END

**Sample input and output:**

Input sentence: My name is Ngoc Hoang Cuong Dinh

Number of vowels: 9

Input sentence: I am first year student at Langara College.

Number of vowels: 14

**Program** Calculate Dates

**File Name:** CalculateDates.java

**Purpose:** Get number of passed days from the beginning of the year to input date.

**Input:** String – date, month, year

**Output:** Int – Number of passed days from the beginning of the year to input date.

**Algorithm:**

BEGIN

1. Input date, month, and year.
2. Validate inputs by method isInputValid.
3. Get and print passed day by method calculateTotalDaysPassed.
4. Print the next day by method printNextDay.

END.

BEGIN isInputValid(int date, int month, int year)

1. If the date < 0 or the date > getDaysInMonth(month, year) then return false.
2. If month > 0 or month > 12 then return false.
3. Otherwise return true.

END.

BEGIN calculateDaysPassed(int date, int month, int year)

1. Init totalDays as 0;
2. For each previous month, increase totalDays as getMonthDays(previousMonth, year).
3. Increase totalDays as date – 1 (because the current date did not pass).
4. Return totalDays.

END.

**Summary:** The totalDays is all previous months days add date – 1 because the current date did not pass.

**Sample input and output:**

Enter the number of date: 28

Enter the number of month: 2

Enter the number of year: 2000

58 days have passes since the beginning of the year.

The next day is February 29, 2000

Enter the number of date: 31

Enter the number of month: 12

Enter the number of year: 2022

364 days have passes since the beginning of the year.

The next day is January 1, 2023

Enter the number of date: 28

Enter the number of year: 2022

58 days have passes since the beginning of the year.

The next day is March 1, 2022