CS2110. Fall 2021          Java Essentials Problem Set

The purpose of this problem set is for you to get practice, to begin getting familiar with Eclipse and basic Java. As long as this is a good attempt, with most things right, you get 100%. Solve these problems during recitation!!! Do it with 1 or 2 neighbors, working together. Go ahead! Discuss things with those around you. If you have a question, ask a TA or the people around you. If you think it would help, ask your TA to discuss an issue for the whole class.

We assume you watched/studied the tutorial material. We invite questions if something was unclear, but if you did not study the tutorial, please do not ask the TA to rehash it – that is unfair to those who did prepare.

If you work with other people, form a group of up to 3 people before submitting on the CMS!!! One person invites the others, and the others must accept the invitation. AFTER THAT HAPPENS, ONE person in the group submits.

It's best if your group uploads your solution at the end of recitation, but you have until Friday of this week to do it. Absolutely nothing will be accepted after Friday.

In writing the code, rely as much as possible on methods of class String. For example, for step 2 below, there is no need to write a loop. Assume that String parameters are not null.

1. Create a project `rec1` in Eclipse and a class `Rec1` in that project. Make the class an application —it should have public static procedure `main`. Do *not* create file module-info.java

2. Add method `public static boolean containsVowel(String s)` to class `Rec1`. This method should return true if string `s` contains a vowel (a, e, i, o, u) and false otherwise.

3. Modify method `main` of class `Rec1` so that when it runs it calls method `containsVowel` with argument "`Hello world!`" and prints the result on the Console (use `System.out.println(`*expression*`);`)

4. Add method `public static String dateToString(int d, int m, int y)`, where `m` is a month (in 1..12), `d` is a day within the month, and `y` is a year. This method returns the long form of the date. For example, `dateToString(28,8,2018)` returns "28 August 2000". Assume the arguments of a call form a valid date (this type of assumption is called a *precondition* of the method).

5. Add method `public static boolean stringE(String s).` This method returns true if `s` contains at least two 'e's and false otherwise. For example, `stringE("")` is false, `stringE("Hello")` is false, and `stringE("Helle")` is true.

6. Modify method `main` so that it calls each method that you wrote on at least one string and prints the result on the console. Try to add enough calls to convince yourself that your methods are correct.

7. On the CMS, form a group (if you did this with one or two others; remember, one person invites and the others accept the invitation) and have one person in the group submit your work in assignment `Rec 01`.