**UNIVERSITY OF KWAZULU-NATAL**

COMP102: Compute Programming

Practical 5: Strings & Methods

Thursday, 8 September 2022

# Question 1: Equals Ignoring Case

Java contains a method available to all String objects called `equalsIgnoreCase(String s)`. This method determines whether two strings match without paying any attention to case. For example, “SIBONELO”, “Sibonelo”, and “sIbOnElO” would all considered matching strings.

Write your own version of this method, which will have the following signature:

**`public static boolean equalsIgnoreCase(String one, String two).`**

This means that it will receive two strings as input and return a value of “true” if the strings are equal, and “false” if they are not.

Use the main method to prompt the user for two strings. After checking if they match or not, communicate the result to them on the console. For example, the console should display the following messages:

```
“SIBONELO” and “Sibonelo” are equal
“Sibonelo” and “Brandon” are not equal
```

# Question 2: Get Birthday

The South African ID number encodes someone’s birthday in the first six digits as follows:

`YYMMDD XXXX XX X.`

The first two digits give the last two digits of the year a person was born. The next two give the moth the person was born (01 for January – 12 for December). Finally, the last two digits are the day the person was born.

Write a method called **`displayBirthday(String idNumber)`** that will receive an ID number as a string. The method should then display the birthday as the day of birth, month of birth, and the year of birth. For example, if the ID number “200312 5478 08 2” is entered, the method will display:

`“You were born on: 12 March 2020”.`

Write a main method that will prompt the user to enter their ID number and then use the **`displayBirthday(String idNumber)`** method to display their birthday on the console.

## Question 3: How Many?

Write a method **`howMany(String s, char c)`** that takes a string and a character as input and returns the number of times the character occurs in the string. Now use this method in the main method to count the number of vowels in a string entered by a user. For example, the program should output the messages below:

```
"Sibonelo" has 4 vowels
"Hello world" has 4 vowels
"Supercalifragilisticexpialidocious" has 16 vowels
"Rhythm" has 0 vowels
```

## Question 4: Shuffle

Write a method **`shuffle(String s)`** that receives a string as input and returns that string with all of the characters mixed up. For example, given the string "Hello", it may return "eHoll" or "loHel".

Test this message by prompting a user in the main method to enter a string to be garbled. Shuffle this string and display the result to the user.

## Question 5: Anagram

Write a method that checks whether two words are anagrams. Two words are anagrams if they contain the same letters in any order. For example, "silent" and "listen" are anagrams. The header of the method should be:

```
public static boolean isAnagram(String one, String two).
```

Write a test program that prompts the user to enter two strings and tells them whether the two strings are anagrams or not.

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