Methods

CMPT220L
Due on Mar 04, 2022 by 11:59 PM
Points: 100

Problems

1. *(Multiplication the digits in an integer)* Write a methos that computes the multiplication of the digits in an integer. Use the following method header:

   ```
   public static int multiplyDigits(long n)
   ```

   For example, `multiplyDigits(234)` returns `24` ($= 2 \times 3 \times 4$). *Hint:* Use the % operator to extract the digits and the / operator to remove the extracted digit. For instance, to extract 4 from 234, use `234 % 10` (= 4). To remove 4 from 234, use `234 / 10` (=23). Use a loop to repeatedly extract and remove the digit until all the digits are extracted. Write a test program that prompts the user to enter an integer then displays the multiplication of all its digits.

2. *(Decimal to binary)* Write a method that parses a decimal number into a binary number as a string. The method header is:

   ```
   public static String decimalToBinary(int value)
   ```

   Write a test program that prompts the user to enter a decimal integer value and displays the corresponding binary value.

   Here is a sample run:

   ```
   Enter an integer: 1451
   The binary value is 10110101011
   ```

3. *(Capitalize first letter of each word)* Write the following method that returns a new string in which the first letter in each word is capitalized.

   ```
   public static void title(String s)
   ```

   Write a test program that prompts the user to enter a string and invokes this method, and displays the return value from this method. Here is a sample run:

   ```
   Enter a string: london england 2015
   The new string is: London England 2015
   ```

   Note that words may be separated by multiple blank spaces

4. *(Hours, minutes, and seconds)* Write a method that returns a string in the form of hour:minute:second for a given total seconds using the following header:

   ```
   public static String format(long seconds)
   ```

   Here is a sample run:

   ```
   Enter total seconds: 342324
   The hours, minutes, and seconds for total seconds 342324 is 23:05:24
   ```

   Note that a zero is padded to hour, minute, and second if any of these values is a single digit.

Submission

Make sure you create one Java file per project. Place your `.java` files under the corresponding folder in your local copy of the GitHub repository, commit and push it to the remote repository. Make sure that the professor has access to the repository (`jfac65-marist`).

```
cmpt220lastname\
   hw05\
      Problem1.java
      Problem2.java
      Problem3.java
      Problem4.java
```