ACS-1904 W2024

Lab #3

Due by Friday, January 26 at 11:59 pm

- Submit your `.java` file(s) via **Nexus**
    - **Note: via the Nexus drop box not by attaching the file in the Quiz**
- Include your name and student number in each file as a comment.

Complete the program below so that it takes a VIN (Vehicle Identification Number) number in the format `sed.2020.AC.123` (Abc.9999.cd.999), 3 letters.4 digits.2 Letters.3digits and displays it in the format `SED-2020-AC-123` Note: Letters are all CAPS, dashes are used as separators.

For example, `sed.2020.AC.123` would be formatted as `SED-2020-AC-123`

Write a static method named `format()` that accepts the string input as a parameter and returns the formatted VIN number. You must:

- Validate that the input is in the proper format `Abc.9999.cd.999` (the letters may be upper or lower case). Your program should throw:
    - `IllegalArgumentException` with a custom message for any of the following violations:
    - the length of the string is not correct.
    - a dot is not in the right position.
    - a character is not a letter or digit where applicable.
        - use the `split()` method to, well, split the VIN number into 4 'tokens' using "." as the delimiting character.
        - use the regular expression `"[.]+"`, or `"\\.+"`
        - use a for loop and the Character class methods .isLetter() and .isDigit() to check each of the characters in each of the tokens.
        - Don't use substring() to validate the characters.
- Format the VIN number:
    - The input string has already been split into tokens, no need to do it again.
    - use `StringBuilder` to reconstruct the VIN into the new format:
        - Add '-' and make sure all letters are UPPER-CASE
- Make sure your code works for all possible valid inputs. Make sure that your code produces the required exceptions and messages for invalid input.

```java
public class VINFormat{
    public static void main (String[] args){
        String vin = "sed.2020.A6.C123";
        System.out.println(format(vin));


        System.out.println("\nEnd of program");
    }//end main

    // add format method here


}
```

Submit your java file (VINFormat.java) via Nexus.