LAB 5: ITECalculator

In this lab, you will continue your calculator application by adding the following features:

A. Create a new class named it NumberSystemConversion. The NumberSystemConversion class will consist of wide ranges of methods to perform conversion.

B. Please add Javadoc comment to above the class to explain the purpose of this class and above each method to explain it.

C. In the NumberSystemConversion class, please create the following methods:

1. binary2Decimal(long or int binary) to convert from binary to decimal
2. binary2Octal(long or int binary) to convert from binary to octal
3. binary2Hex(long or int binary) to convert from binary to hexadecimal
4. octal2Decimal(long or int octal) to convert from octal to decimal
5. octal2Binary(long or int octal) to convert from octal to binary
6. octal2Hex(long or int octal) to convert from octal to hexadecimal

D. Please add sixth menu item Number System Conversion to the menu

E. When user chooses menu number 6, it wills show a submenu containing the following menu

1. Binary
    - Binary to Octal

- Binary to Decimal
- Binary to Hexadecimal

Note: In binary, it contains only number 0 and 1. So, please allow the user to input only 0 and 1 if user chooses this submenu. If the user inputs the number beside 0 and 1, please display a message to inform user that in binary only 0 and 1 is allowed.

2. Octal

- Octal to binary
- Octal to decimal
- Octal to hexadecimal

Note: In octal, it contains only number from 0 to 7. So, please allow the user to input only from 0 to 7 if user chooses this submenu. If the user inputs the number beside 0 to 7, please display a message to inform user that in binary only 0 to 7 is allowed.

Note: You cannot use built-in function in Java to perform conversion. You need to implement the method yourself based on the knowledge you learn in year 1.