Template Week 2 – Logic

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Bonus point assignment – week 2

Create a java program that accepts user input and presents a menu with options.

1. Is number odd?
2. Is number a power of 2?
3. Two's complement of number?

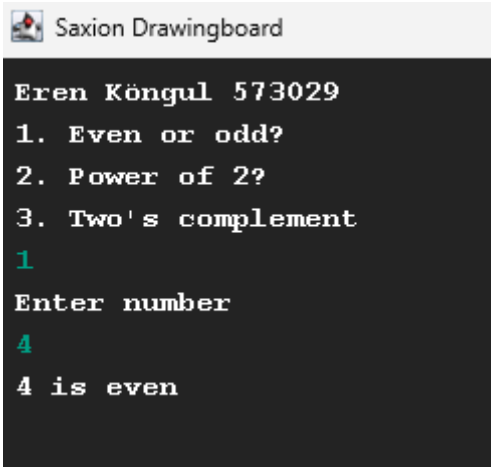
Implement the methods by using the bitwise operators you have just learned.

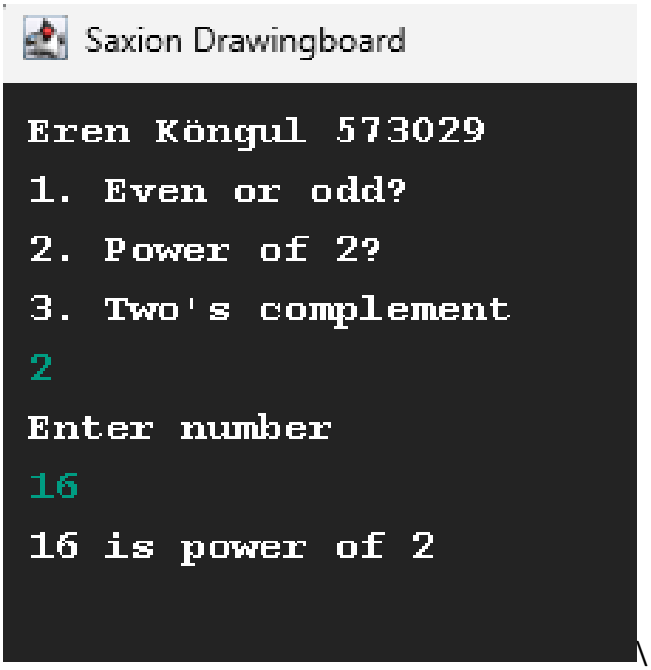
Organize your source code in a readable manner with the use of control flow and methods.

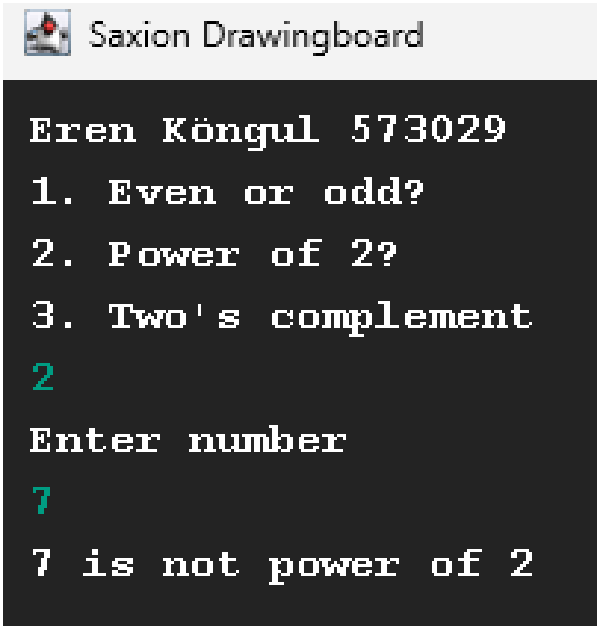
Paste source code here, with a screenshot of a working application.

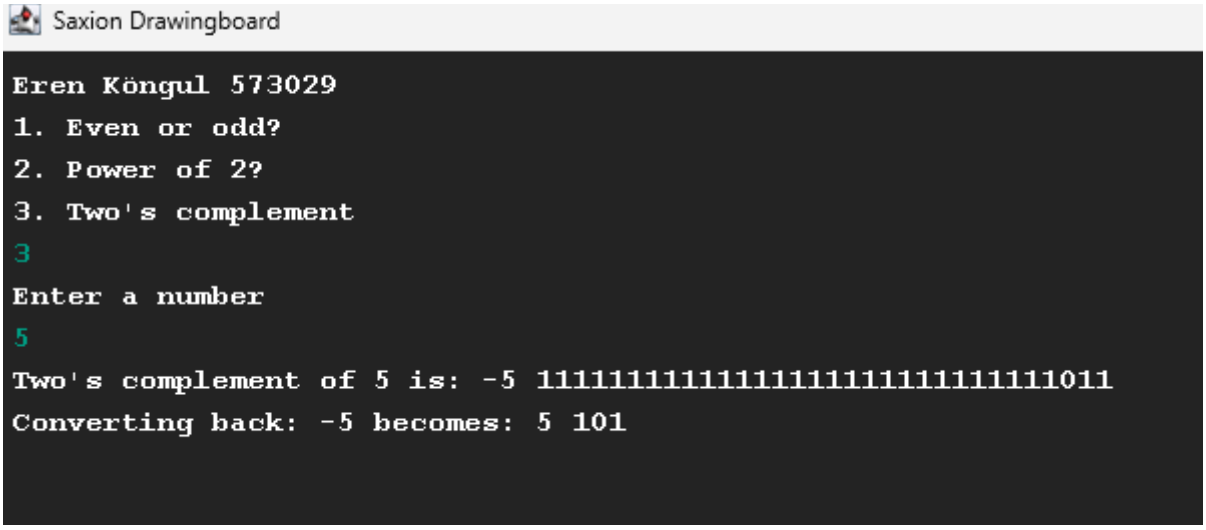
```
import nl.saxion.app.SaxionApp;

public class Application implements Runnable {

  public static void main(String[] args) {
    SaxionApp.start(new Application(), 1024, 768);
  }

  public void run() {
    SaxionApp.printLine("Eren Köngul 573029");
    SaxionApp.printLine("1. Even or odd?");
    SaxionApp.printLine("2. Power of 2?");
    SaxionApp.printLine("3. Two's complement");
    int enteredvalue = SaxionApp.readInt();

    if (enteredvalue == 1) {
      OddEven();
    } else if (enteredvalue == 2) {
      powerof2();
    } else if (enteredvalue == 3) {
      twoscomplement();
    }
  }
  public void OddEven() {
    SaxionApp.printLine("Enter number");
    int number = SaxionApp.readInt();

    if (Odd(number)) {
      SaxionApp.printLine(number + " is odd");
    } else {
      SaxionApp.printLine(number + " is even");
    }
  }

  public boolean Odd(int number) {
    return (number & 1) == 1;


  }

  public void powerof2() {
    SaxionApp.printLine("Enter number");
    int number = SaxionApp.readInt();

    if (power2(number)) {
```

```
            SaxionApp.printLine(number + " is power of 2");
        } else {
            SaxionApp.printLine(number + " is not power of 2");
        }


    }

    public boolean power2(int number) {
        return number > 0 && (number & (number - 1)) == 0;
    }

    public void twoscomplement() {
        SaxionApp.printLine("Enter a number");
        int number = SaxionApp.readInt();

        int negativeNumber = toTwosComplement(number);
        SaxionApp.printLine("Two's complement of " + number + " is: " + negativeNumber + " " + Integer.toBinaryString(negativeNumber));


        int originalNumber = toTwosComplement(negativeNumber);
        SaxionApp.printLine("Converting back: " + negativeNumber + " becomes: " + originalNumber + " " +
Integer.toBinaryString(originalNumber));
    }


    public static int toTwosComplement(int number) {
        return ~number + 1;
    }
}
```




Saxion Drawingboard
Eren Köngul 573029
1. Even or odd?
2. Power of 2?
3. Two's complement
2
Enter number
16
16 is power of 2


Saxion Drawingboard
Eren Köngul 573029
1. Even or odd?
2. Power of 2?
3. Two's complement
2
Enter number
7
7 is not power of 2


Saxion Drawingboard
Eren Köngul 573029
1. Even or odd?
2. Power of 2?
3. Two's complement
3
Enter a number
5
Two's complement of 5 is: -5 11111111111111111111111111111011
Converting back: -5 becomes: 5 101

Ready? Then save this file and export it as a pdf file with the name: **week2.pdf**