Bonus point assignment – week 2

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

```java
import nl.saxion.app.SaxionApp;
public class Application implements Runnable {

    public static void main(String[] args) {
        SaxionApp.start(new Application(), 800, 600);
    }

    public void run() {
        SaxionApp.printLine("Enter a number to test");
        int input = SaxionApp.readInt();

        while (true) {
            SaxionApp.printLine("  Menu");
            SaxionApp.printLine("------");
            SaxionApp.printLine("a) Check if number is odd or even");
            SaxionApp.printLine("b) Is the number a power of two");
            SaxionApp.printLine("c) What is the numbers two's
complement");
            SaxionApp.printLine("d) Close");
            SaxionApp.printLine("Choose an option a - d");
            char option = SaxionApp.readChar();


            switch (option) {
                case 'a' -> {
                    if (isTheNumberOdd(input)) {
                        SaxionApp.printLine(input + " is odd.");
                    } else {
                        SaxionApp.printLine(input + " is even.");
                    }
                }
                case 'b' -> {
                    if (isTheNumberAPowerOfTwo(input)) {
                        SaxionApp.printLine(input + " is a power of
2.");
                    } else {
                        SaxionApp.printLine(input + " is not a power of
2.");
                    }
                }
                case 'c' ->
                        SaxionApp.printLine("Two's complement of " +
input + " is: " + numbersTwosComplement(input));
                case 'd' -> {
                    return; // Exit the program
                }
                default -> SaxionApp.printLine("Enter a option between
a - d");
            }
        }
    }

    public boolean isTheNumberOdd(int input)
```

```
        {
            return (input & 1 ) == 1;
        }

    public boolean isTheNumberAPowerOfTwo(int input) {

            return input > 0 && (input & (input - 1)) == 0;
        }

    public int numbersTwosComplement(int input){
            return ~input + 1;
        }
}
```

```
Enter a number to test
64
  Menu
------
a) Check if number is odd or even
b) Is the number a power of two
c) What is the numbers two's complement
d) Close
Choose an option a - d
64 is even.
  Menu
------
a) Check if number is odd or even
b) Is the number a power of two
c) What is the numbers two's complement
d) Close
Choose an option a - d
64 is a power of 2.
  Menu
------
a) Check if number is odd or even
b) Is the number a power of two
c) What is the numbers two's complement
d) Close
Choose an option a - d
Two's complement of 64 is: -64
  Menu
------
a) Check if number is odd or even
b) Is the number a power of two
c) What is the numbers two's complement
d) Close
Choose an option a - d
```