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.

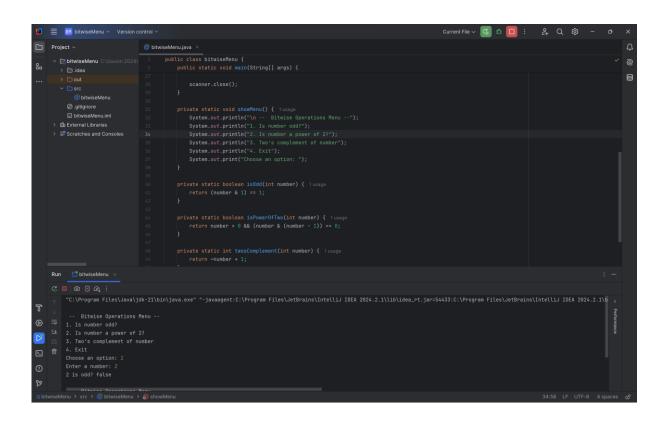
Organize your source code in a readable manner with the use of control flow and methods.

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

```
import java.util.Scanner;
public class bitwiseMenu {
  public static void main(String[] args) {
    Scanner scanner = new Scanner(System.in);
    while (true) {
      showMenu();
      int choice = scanner.nextInt();
      if (choice == 4) {
        System.out.println("Goodbye!");
        break;
      }
      System.out.print("Enter a number: ");
      int number = scanner.nextInt();
      switch (choice) {
         case 1 -> System.out.println(number + " is odd? " + isOdd(number));
         case 2 -> System.out.println(number + " is a power of 2? " + isPowerOfTwo(number));
         case 3 -> System.out.println("Two's complement of " + number + ": " +
twosComplement(number));
         default -> System.out.println("Invalid choice, try again.");
      }
    }
    scanner.close();
  }
```

IT FUNDAMENTALS 1

```
private static void showMenu() {
    System.out.println("\n -- Bitwise Operations Menu --");
    System.out.println("1. Is number odd?");
    System.out.println("2. Is number a power of 2?");
    System.out.println("3. Two's complement of number");
    System.out.println("4. Exit");
    System.out.print("Choose an option: ");
  }
  private static boolean isOdd(int number) {
    return (number & 1) == 1;
  }
  private static boolean isPowerOfTwo(int number) {
    return number > 0 \&\& (number \& (number - 1)) == 0;
  }
  private static int twosComplement(int number) {
    return ~number + 1;
  }
}
```



IT FUNDAMENTALS 2