

Reflection Log PrimeNumber

```
Scanner scanner = new Scanner(System.in);

//Prompt the user for a number.
System.out.print("Please enter a number greater than 1: ");

int number = scanner.nextInt();
```

initializes a Scanner object to read input from the console and prompts the user to enter a number greater than 1. It then reads the user's input and stores it as an integer in the variable number.

```
//Check if the number is prime.
boolean isPrimeNum = true;

// A prime number is greater than 1.
if (number <= 1) {

    isPrimeNum = false;

} else {
```

initializes a boolean variable isPrimeNum to true to track whether the input number is prime. It then checks if the number is less than or equal to 1; if it is, the variable is set to false, as prime numbers must be greater than 1.

```
// Check for factors from 2 to number - 1.
for (int num = 2; num < number; num++) {

    if (number % num == 0) {
        isPrimeNum = false; //Not prime if evenly divisible.
        break; //No need to check further.
    }
}
```

This code uses a for loop to check for factors of the input number from 2 up to one less than the number itself. If it finds any factor that evenly divides the number (i.e., `number % num == 0`), it sets `isPrimeNum` to false and breaks out of the loop, indicating that the number is not prime.

```
// Display the result.
if (isPrimeNum) {
    System.out.println(number + " is a prime number.");
} else {
    System.out.println(number + " is not a prime number.");
}
```

This code checks the value of the boolean variable `isPrimeNum` to determine whether the input number is prime. If `isPrimeNum` is true, it prints a message indicating that the number is a prime number; otherwise, it prints a message stating that the number is not prime.