Using Print Format

- Using **format** to print at the console
- Examples:

```
String name = "George";
int age = 5;
System.out.printf("Name: %s, Age: %d", name, age);
// Name: George, Age: 5
```

Placeholder %s stands for string and corresponds to name

Placeholder %d stands for integer number and corresponds to age

Formatting Numbers in Placeholders

- **D** – format number to certain digits with leading zeros
- **F** – format floating point number with certain digits after the decimal point
- Examples:

```
int percentage = 55;
double grade = 5.5334;
System.out.printf("%03d", percentage);   // 055
System.out.printf("%.2f", grade);        // 5.53
```

Using String.format

- Using `String.format` to create a string by pattern
- Examples:

```
String name = "George";
int age = 5;
String result = String.format("Name: %s,
                              Age: %d", name, age);
System.out.println(result);
//Name: George, Age 5
```

Comparison Operators

Operator	Notation in Java
Equals	==
Not Equals	!=
Greater Than	>
Greater Than or Equals	>=
Less Than	<
Less Than or Equals	<=

Comparing Numbers

- Values can be compared:

```
int a = 5;
int b = 10;
System.out.println(a < b);          // true
System.out.println(a > 0);          // true
System.out.println(a > 100);        // false
System.out.println(a < a);          // false
System.out.println(a <= 5);         // true
System.out.println(b == 2 * a);     // true
```

Logical Operators

- Logical operators give us the ability to write multiple conditions in one `if` statement
- They return a boolean value and compare boolean values

Operator	Notation in Java	Example
Logical NOT	!	!false -> true
Logical AND	&&	true && false -> false
Logical OR	||	true || false -> true

Example: Divisible by 3

- Print the numbers from 1 to 100, that are divisible by 3

```
for (int i = 3; i <= 100; i += 3) {
  System.out.println(i);
}
```

- You can use "**fori**" live template in Intellij


```
for (int i = 0; i < ; i++) {

}
```

Do … While Loop

- Similar to the **while** loop, but always executes at least once:

```
int i = 1;
do {
   System.out.println(i);
   i++;
} while (i <= 10);
```

Initial value

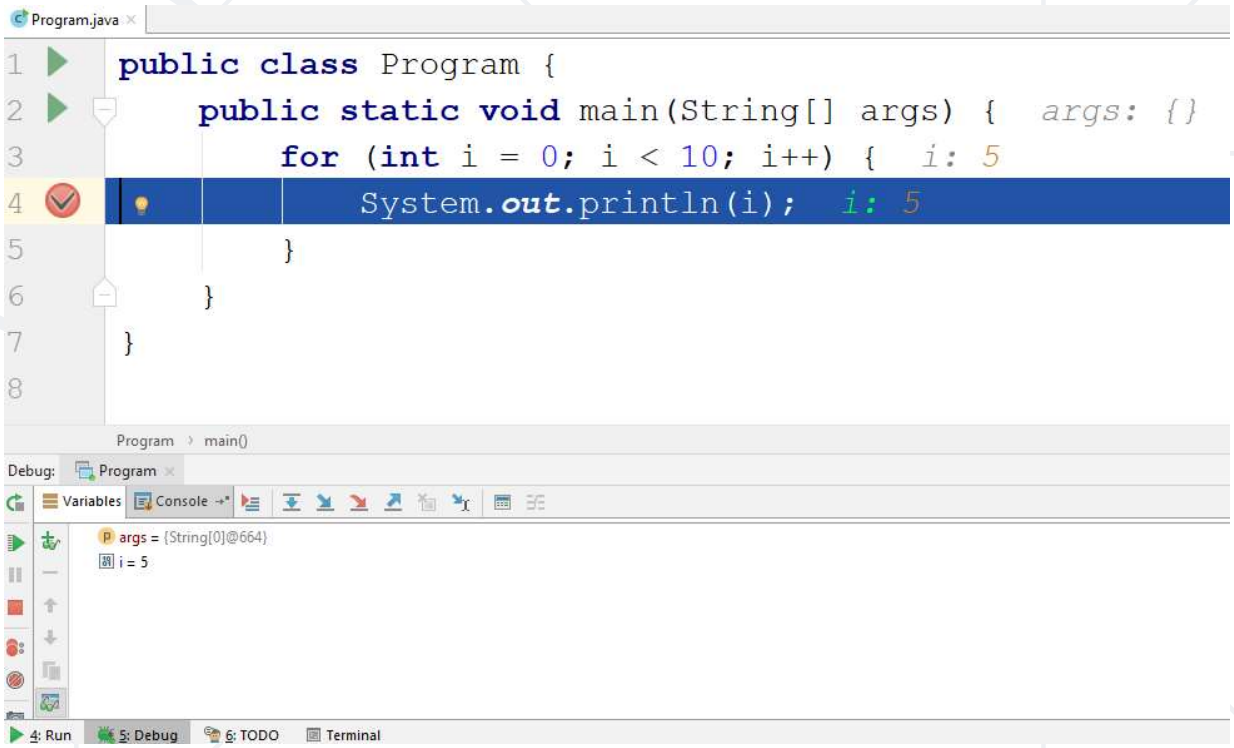
Loop body

Increment the counter

Condition

Debugging in Intellij

- Intellij has a built-in **debugger**
- It provides:
  - **Breakpoints**
  - Ability to **trace** the code execution
  - Ability to **inspect** variables at runtime



Using the Debugger in Intellij

- Start without Debugger: **[Ctrl+Shift+F10]**
- Toggle a breakpoint: **[Ctrl+F8]**
- Start with the Debugger: **[Alt+Shift+F9]**
- Trace the program: **[F8]**
- Conditional breakpoints