**Unit 3 & Scanner cheat sheet**

**Boolean expression:**

== equals

!= not equals

\*Return true or false values.

**Relational operators:**

< Less than

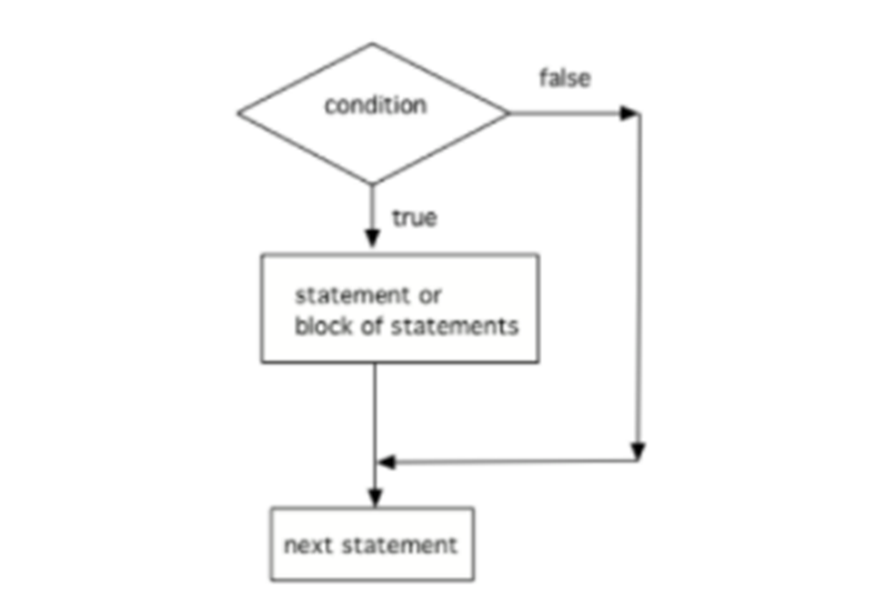
> Greater Than

<= Less than or equals to

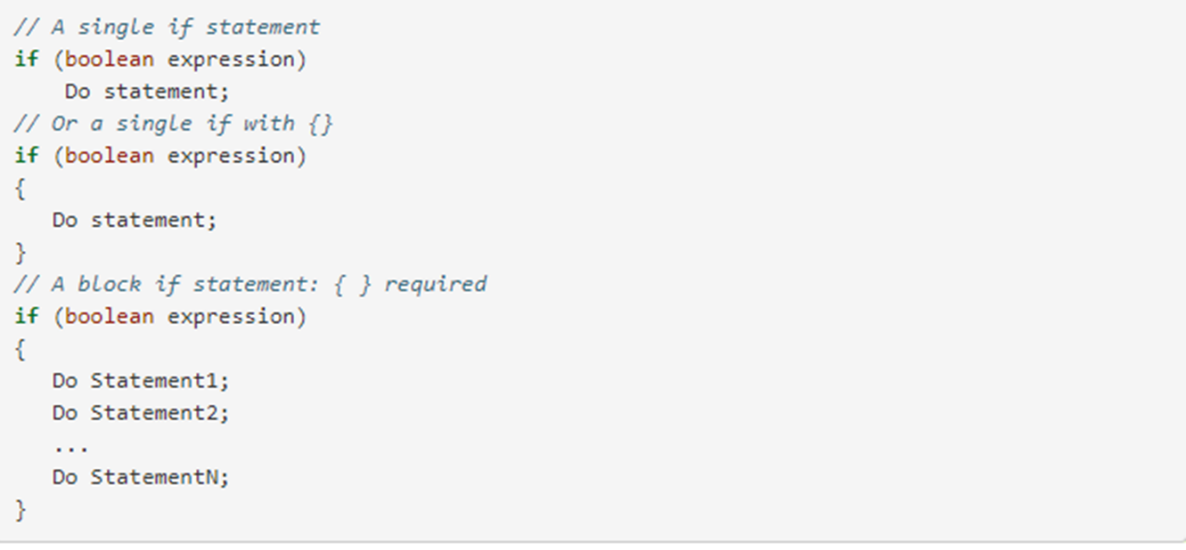
>= Greater than or equals to

\*Used only for numerical operations. Return true or false values.

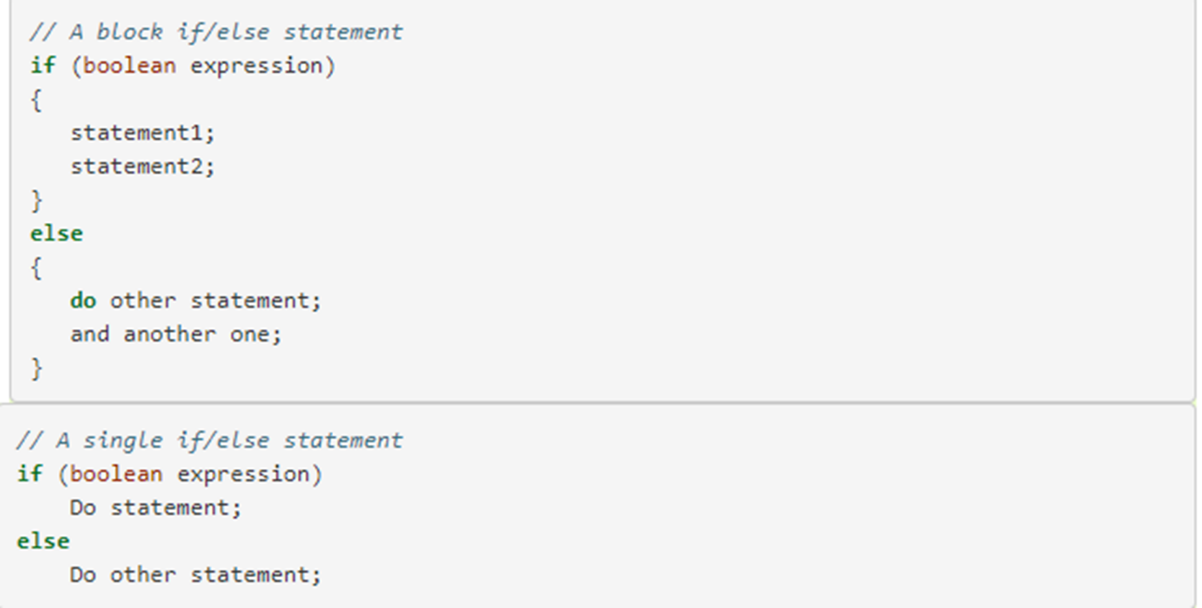
**Conditional Statements:**



**if statement structure:**



**if-else statement structure:**

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**else-if statement structure:**

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**Compound Boolean expressions:**

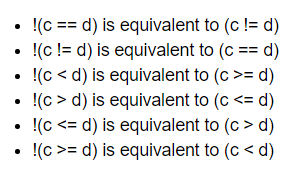
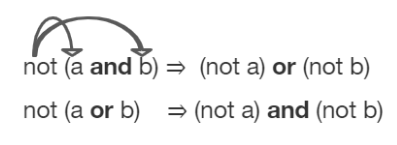
&& and – if you want two things to be true before the body of the conditional statement is executed.

|| or – if only one of the two conditions need to be true for the conditional statement to be executed.

! not – can be used to negate a Boolean value.

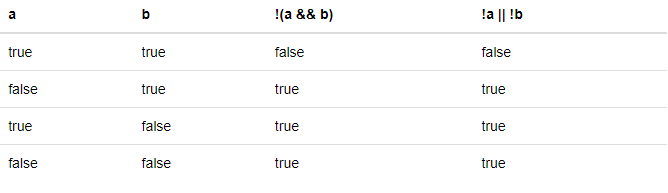
\* In Java, ! has precedence (is executed before) && which has precedence over ||. Parentheses can be used to force the order of execution in a different way.

**De Morgan’s law:**



**Truth tables:**

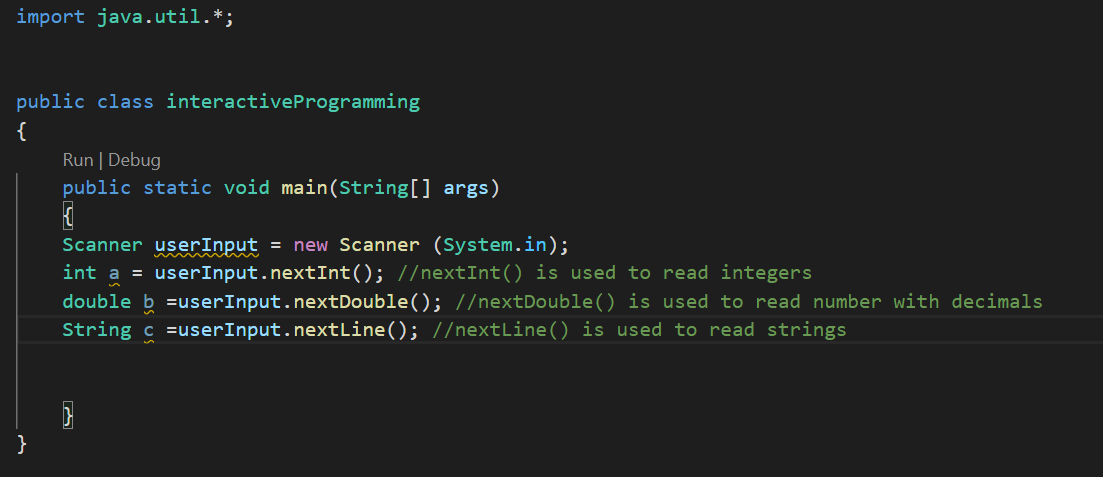
\*De Morgan’s law can be proved with a truth table.



**Comparing Objects:**

* Often classes have their own equals method, which can be used to determine whether two objects of the class are equivalent.
* Two object references are considered aliases when they both reference the same object.
* Object reference values can be compared, using == and !=, to identify aliases.
* A reference value can be compared with null, using == or !=, to determine if the reference actually references an object.

**Scanner Class:**



\*for more about importing packages:

<https://www.w3schools.com/java/java_packages.asp>

\*for more about the util package:

<https://docs.oracle.com/javase/8/docs/api/java/util/package-summary.html>

\*for more about Scanner class:

<https://docs.oracle.com/javase/8/docs/api/java/util/Scanner.html>