

# **CSE 215: Programming Language II Lab**

### Lab-2

## **Comparison operators, Conditional Statements**

#### **Objective:**

- To learn to use comparison operators
- To learn to use conditional statements (if-else, if-else if-else, switch case, ternary operator)

#### **Boolean Expressions**

### **Comparison Operators**

### **Boolean Operators**

Operator	Name	Operator	Name
==	Equal to	!	NOT
!=	Not equal to	&&	AND (both)
<	Less than		OR (any one or both)
>	Greater than	^	Exclusive OR (any one but <b>not</b> both)
<=	Less than or equal to		
>=	Greater than or equal to		

Mostly similar to how things are in C language.

The reason why ^ doesn't work as the exponent operator in Java is due to the fact that it is used as the X-OR operator!

The comparison operators yield a Boolean result (true or false)

#### **Conditional statements**

Based on some condition, execute a select block of code.

if-else	switch case	ternary operator
Standard conditional	Useful if your code turns out	Shorthand notation for an if-else
statement	to have multiple "else if"	block, sometimes useful
	clauses	
<pre>if (condition) {     // code } else {     // code } if (condition1) {</pre>	<pre>switch (conditionVar) {    case 1:    // code        break;    case 2:    // code        break;</pre>	<pre>int number = 1;  String msg = (number == 1) ?     "variable number is 1" :     "variable number is not 1";</pre>
// code } else if (condition2) {     // code } else if (condition3) {     // code } else if (conditionN) {     // code } else {     // code }	case n:  // code break;  default:  // code break; }	<pre>System.out.println(msg);</pre>

#### Task:

- 1. Write a program that takes an integer and determines if it's odd or even. Use switch cases to produce result.
- 2. Write a program that takes an integer and determines if it's prime or not. A number is prime if it is divisible by 1 and itself only, i.e. 2, 3, 11, 37 etc.
- 3. Consider the given BMI ranges

If your BMI is:

```
below 18.5 – you're "underweight"
between 18.5 and 24.9 – you're "healthy"
between 25 and 29.9 – you're "overweight"
between 30 and 39.9 – you're "obese"
```

Write a program that takes a decimal value as input from the user. Then print the quoted words above based on the range.

- (a) Use if-else if-else
- (b) Use ternary operator