

## CMSC 245 – Principles of Programming Languages

### Lab#3: Conditional Expressions in C, Java, Python, and other languages

In this lab you will explore the ternary conditional expressions in C, Java, Python, and the language you are assigned.

#### Ternary Conditional Expressions

Consider the following statement (in C, C++, Java, etc.) to compute the maximum of two values `a` and `b` and place it in a variable `max`:

```
if (a > b)
    max = a;
else
    max = b
```

#### The `?:` Operator

In C, C++, Java, and many other languages there is a **ternary conditional expression** (requires 3 operands) that has the following syntax:

```
<condition> ? <expression1> : <expression2>
```

The above is an expression, it yields a value which is either the result of `<expression1>` (if `<condition>` is true), or the value of `<expression2>` (if it is false). Thus we can write the above if-statement using the `?:` operator as below:

```
max = a > b ? a : b;
```

**Question 1:** What does the following do (in C/C++/Java):

```
printf("It will take %d minute%c.\n", m, (m > 1) ? 's' : '\0');
```

**Question 2:** Does Python have a conditional expression like the one above? Yes/No?

If Yes, write the computation of `max` using the conditional operator.

**Question 3:** Does the language you are studying have a conditional expression like the one above? Yes/No?

If Yes, write the computation of `max` using the conditional operator.