

## COSC 1P02 – Tutorial Exercise 2

Monday October 2, 2023

### Numeric Expressions

Use E2 Answer.pdf for your own practice.

In this exercise we will examine numeric expressions paying special attention to mixed mode computations, conversion, and casting. Assume that the following variables have been declared in a Java program and then assigned the following values:

```
int      i, j, k;
double   x, y, z;
i = 3;
j = 5;
x = 3.0;
y = 5.0;
```

Determine what you would expect to be assigned to the variable (k or z) in each of the following assignment statements and write the values in the Predicted column on the answer sheet. Where applicable write down floating point numbers accurate to two decimal places.

- 1) `k = i + j / 3;`
- 2) `k = j % i * 2;`
- 3) `z = x + y / 3.0;`
- 4) `z = i + j / 3;`
- 5) `z = (double) i + j / 3;`
- 6) `z = i + (double) j / 3;`
- 7) `z = i + j / 3.0;`
- 8) `z = (double) ( i + j / 3 );`
- 9) `k = (int) ( x + y / 3.0 );`
- 10) `k = (int) x + (int) y / 3;`
- 11) `z = i / j * 3.0;`
- 12) `z = 3.0 * i / j;`
- 13) `z = 3 / ( (double) i / j );`
- 14) `z = 3 / ( i / j );`

Check your answers using the BlueJ project provided. Write the values in the Actual column. Did you get the correct results? Do you know where you went wrong?