

Answer the following five questions and turn in by Monday October 19th.

1. Given the following Java method create the Strings that get sent in to a and b that would make the output below happen:

```
public void myString(String a, String b)
{
    System.out.println(a);
    System.out.println(b);
    System.out.println(a == b);
    System.out.println(a.equals(b));
}
```

OUTPUT:

Hunter

Hunter

false

true

2. Given the following Java code give the values for the bytes a and b as hex numbers where  $a > 64$  and  $b < 15$  that would make the following method output 4.

```
public void myByte (byte a, byte b)
{
    byte c = (byte)(a & b);
    System.out.println(c);
}
```

3. Describe a situation in which the add operator in a programming language would not be associative.

4. Assume the following rules of associativity and precedence for expressions:

<i>Precedence</i>	<i>Highest</i>	<b>*</b> , <b>/</b> , <b>not</b>
		<b>+</b> , <b>-</b> , <b>&amp;</b> , <b>mod</b>
		<b>-</b> (unary)
		<b>=</b> , <b>/=</b> , <b>&lt;</b> , <b>&lt;=</b> , <b>&gt;=</b> , <b>&gt;</b>
		<b>and</b>
	<i>Lowest</i>	<b>or</b> , <b>xor</b>
<i>Associativity</i>	<i>Left to right</i>	

Show the order of evaluation of the following expressions by parenthesizing all subexpressions and placing a superscript on the right parenthesis to indicate order. For example, for the expression

$a + b * c + d$

the order of evaluation would be represented as

$$((a + (b * c)^1)^2 + d)^3$$

A.  $a * (b - 1) / c \text{ mod } d$

B.  $-a \text{ or } c = d \text{ and } e$

C.  $-a + b$

5. Write a BNF description of the precedence rules defined for the expressions in Problem 9. Assume the only operands are the names a,b,c,d, and e.