CECS 174 – Lecture 9 – Boolean Values

Relational Operators –

Relational Operators test the relationship between two values and then return either a true or a false value. Any of the primitive data types can be compared with the relational operators. Objects should not be compared with relational operators, unexpected results can occur from using the relational operators on objects. Most classes have their own methods created for comparing two objects. (ex. Strings use the method compareTo()).

Operator	Description
>	Greater Than
<	Less Than
>=	Greater Than or Equal To
<=	Less Than or Equal To
==	Equal To
!=	Not Equal To

```
int value = 10;
int number = 5;

value > 0        _____________
value == number  _____________
value <= 10      _____________
number != 0      _____________
```

Boolean Values –

Boolean is a primitive data type whose value is either true or false. Its value can be assigned directly or indirectly.

```
boolean choice = true;

int testCase = 5;
boolean choice2 = testCase < 10;   //choice2 = true

String testStr = "Hello There";
boolean sameChar = testStr.charAt(6) == 'T'; //true

double num1 = 12.4;
boolean testVal = num1 >= 50.32;  //false
boolean testVal2 = num1 == 10;    //false
```

CECS 174 – Lecture 9 Worksheet

Fill in whether each of the following statements evaluate to true or false.

Given:

```
int x = 10, y = 5, z = 2;
String word = "Testing...";
```

_____ 1. `x < 7`

_____ 2. `x + y + z >= 17`

_____ 3. `x * y >= 50`

_____ 4. `y / z <= 2.5`

_____ 5. `(double)y / z == 2.5`

_____ 6. `x * z != 20`

_____ 7. `x * 4 >= y * 8`

_____ 8. `x % y == 0`

_____ 9. `x > y == false`

_____10. `(y % z == 1) == (y % -z == 1)`

_____11. `(-y % z == 1) == (-y % -z == 1)`

_____12. `word.length() > 10`

_____13. `word.equals("testing...");`

_____14. `word.substring(7).equals("...")`

_____15. `word.charAt(0) == word.charAt(3)`

_____16. `word.indexOf('i') * 3 >= x + 2`

_____17. `word.toUpperCase().substring(0,3).equals("TEST")`

_____18. `(word.charAt(2) + 1) == word.charAt(3)`

_____19. `word.charAt(word.length()-6) == word.charAt(4)`

_____20. `word.toUpperCase().equals(word.toLowerCase())`