**CS150 Intro to CS1**

**Conditions**

1. Evaluate each of the following expressions. Circle the correct result.

(a) (3 > 6 and 7 > 4) True False

(b) (4 > 6 or 10 < 2 \* 6) True False

(c) (7 >= 3 + 4 or 6 < 4 and 2 < 5) True False

(d) not(5 <= 4 or 6 != 5 and 10 >= 4) True False

1. Assume the variables and assignments below.

**x = 5**

**y = 3**

**z = 2**

**a = True**

**b = False**

Evaluate the following expressions.

(a) (x – z == y) True False

(b) (x \* z > z \* y or b) True False

(c) (x \* z < z \* y and a) True False

(d) (x \* z > z \* y and a or b) True False

(e) not(x \* z > z \* y and a or b) True False

1. Assume x and y are variables of type int. Translate each phrase into an equivalent boolean expression.

(a) x is less than 20 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(b) x is between 1 and 100 (inclusive) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(c) y is either 1 or 5 or 10 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(d) Both x and y are positive \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(e) Neither x nor y is positive \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Circle the value stored in the boolean variable after the execution of each set of statements.

(a) age = 30

isVoter = age <=18

True False

(b) age = 16

isVoter = age <=18

True False

(c) number = 11

evenNumber = number % 2 == 0

True False

(d) number = 4

evenNumber = number % 2 == 0

True False

(e) examScore = 60

validExamScore = examScore >= 0 and examScore <= 100

True False

(f) examScore = 110

validExamScore = examScore >= 0 and examScore <= 100

True False