**Topic: Conditions**

**CS 150 Introduction To CS**

**Python - Worksheet 04**

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1. Evaluate each of the following expressions. Highlight 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 **x < 20**

(b) x is between 1 and 100 (inclusive) **x >= 1 and x <= 100**

(c) y is either 1 or 5 or 10 **y == 1 or y == 5 or y == 10**

(d) Both x and y are positive **x >= 1 and y >= 1**

(e) Neither x nor y is positive **not(x >= 1 or y >= 1)**

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**