***Spring 2018*** Lewis University

**CPSC50100 Programming Fundamentals** Quiz 2 (1/30/18)

**1) The idea that program instructions execute in order (linearly) unless otherwise specified through a conditional statement is known as**

A) boolean execution

B) conditional statements

C) try and catch

D) flow of control

**2) Of the following if statements, which one correctly executes three instructions if the condition is true?**

A) if (x < 0)

a = b \* 2;

y = x;

z = a - y;

B) {

if (x < 0)

a = b \* 2;

y = x;

z = a - y;

}

C) if { (x < 0)

a = b \* 2;

y = x;

z = a - y ;

}

D) if (x < 0)

{

a = b \* 2;

y = x;

z = a - y;

}

**3) Which of the sets of statements below will add 1 to x if x is positive and subtract 1 from x if x is negative but leave x alone if x is 0?**

A) if (x > 0) x++;

else x--;

B) if (x > 0) x++;

else if (x < 0) x--;

C) if (x > 0) x++;

if (x < 0) x--;

else x = 0;

D) if (x == 0) x = 0;

else x++;

x--;

E) x++;

x--;

***Given the nested if-else structure below, answer questions below.***

if (a > 0)

if (b < 0)

x = x + 5;

else

if (a > 5)

x = x + 4;

else

x = x + 3;

else

x = x + 2;

**4) If x is currently 0, a = 5 and b = 5, what will x become after the above statement is executed?**

A) 0

B) 2

C) 3

D) 4

**5) If x is currently 0, a = 0 and b = -5, what will x become after the above statement is executed?**

A) 0

B) 2

C) 3

D) 4

**6) If x is currently 0, a = 1 and b = -1, what will x become after the above statement is executed?**

A) 0

B) 2

C) 3

D) 5

**7) Consider the following code that will assign a letter grade of 'A', 'B', 'C', 'D', or 'F' depending on a student's**

test score.

if (score >= 90) grade = 'A';

if (score >= 80) grade = 'B';

if (score >= 70) grade = 'C';

if (score >= 60) grade = 'D';

else grade = 'F';

A) This code will work correctly in all cases

B) This code will work correctly only if grade >= 60

C) This code will work correctly only if grade < 60

D) This code will work correctly only if grade < 70

**8) Assume that count is 0, total is 20 and max is 1. The following statement will do which of the following?**

if (count != 0 && total / count > max) max = total / count;

A) The condition short circuits and the assignment statement is not executed

B) The condition short circuits and the assignment statement is executed without problem

C) The condition does not short circuit causing a division by zero error

D) The condition short circuits so that there is no division by zero error when evaluating the condition, but the assignment statement causes a division by zero error

**9) What is wrong, logically, with the following code?**

if (x > 10) System.out.println("Large");

else if (x > 6 && x <= 10) System.out.println("Medium");

else if (x > 3 && x <= 6) System.out.println("Small");

else System.out.println("Very small");

A) There is no logical error, but there is no need to have (x <= 10) in the second conditional or (x <= 6) in the third conditional

B) There is no logical error, but there is no need to have (x > 6) in the second conditional or (x > 3) in the third conditional

C) The logical error is that no matter what value x is, "Very small" is always printed out

D) The logical error is that no matter what value x is, "Large" is always printed out

**10) Consider the following outline of a nested if-else structure which has more if clauses than else clauses. Which of the statements below is true regarding this structure?**

if (condition1)

if (condition2)

statement1;

else statement2;

A) syntactically it is invalid to have more if clauses than else clauses

B) statement2 will only execute if condition1 is false and condition2 is false

C) statement2 will only execute if condition1 is true and condition2 is false

D) statement2 will only execute if condition1 is false, it does not matter what condition2 is

**11) Assume that x and y are int variables with x = 5, y = 3, and a and d are char variables with a = 'a' and d = 'A', and examine the following conditions:**

Condition 1: (x < y && x > 0)

Condition 2: (a != d || x != 5)

Condition 3: !(true && false)

Condition 4: (x > y || a == 'A' || d != 'A')

A) All 4 Conditions are true

B) Only Condition 2 is true

C) Condition 2 and Condition 4 are true only

D) Conditions 2, 3 and 4 are all true, Condition 1 is not

**12) The break statement does which of the following?**

A) ends the program

B) transfers control out of the current control structure such as a loop or switch statement

C) ends the current line of output, returning the cursor

D) denotes the ending of a switch statement

**13) Every Interator**

A) has a hasNext( ) method

B) has a hasFirst( ) method

C) has a hasNextInt( ) method

D) has a isEmpty( ) method

**14) If x is an int where x = 1, what will x be after the following loop terminates?**

while (x < 100)

x \*= 2;

A) 2

B) 64

C) 100

D) 128

**15) How many times will the following loop iterate?**

int x = 10;

while (x > 0)

{

System.out.println(x);

x--;

}

A) 0 times

B) 1 time

C) 9 times

D) 10 times

*Given the following switch statement where x is an int, answer the questions below*

switch (x)

{

case 5 : x += 3;

case 6 : x++;

case 7 : x += 2;

case 8 : x--;

case 9 : x++

}

**16) If x is currently equal to 5, what will the value of x be after the switch statement executes?**

A) 8

B) 6

C) 11

D) 5

**17) Given the following code, where x = 0, what is the resulting value of x after the for-loop terminates?**

for (int i=0;i<5;i++)

x += i;

A) 0

B) 4

C) 5

D) 10

**18) How many times will the following loop iterate?**

int x = 10;

do {

System.out.println(x);

x--;

} while (x > 0);

A) 1 time

B) 9 times

C) 10 times

D) 11 times

**19) In Java, the symbol "=" and the symbol "==" are used synonymously (interchangeably).**

A) TRUE

B) FALSE

**20) The following for-loop is an infinite loop.**

for (int j = 0; j < 1000; ) i++;

A) TRUE

B) FALSE