WEEK 2 : FLOW CONTROL STATEMENTS

Given the following,

```
1. class For {
2.    public void test() {
3.
4.       System.out.println("x = "+ x);
5.    }
6.  }
7. }
```

and the following output,

x = 0 x = 1

Which two lines of code (inserted independently) will cause this output?

- a. for (int x = 0; x > 2; ++x) {
- b.
- c. for (int x = 0; x < 2; x++) {
- d. for (int x = -1; x < 2; ++x) {
- e. for (int x = 1; x < 3; ++x) {

Examine the following code:

```
int count = 7;
while ( count >= 4 )
{
  System.out.print( count + " " );
  count = count - 1;
}
System.out.println( );
```

What does this code print on the monitor?

- a. 1 2 3 4 5 6 7
- b. 7 6 5 4 3
- c. 6 5 4 3
- d. 7 6 5 4

Another word for "looping" is:

- a. reiteration
- b. iteration
- c. recapitulation
- d. tintinabulation

Given the following code:

```
public class TestSwitch {
 public static void main(String args[[]) {
  byte b = -1;
  switch (b) {
  case -1:
   System.out.print("-1");
   break;
  case 127:
   System.out.print("127");
   break;
  case 126:
   System.out.print("126");
   break;
  default:
   System.out.print("Default ");
  }
 }
}
```

What is the result of attempting to compile and run the program?

a.

b. Prints: 128

c. Prints: Default

d. Compile-time error

e. Prints: -1

What is output of the following program?

```
class A {
 public static void main(String[[] args) {
  float f = new Float(2.5);
  float f1 = 2.5f;
  if (f == f1)
   System.out.println("cat");
  else
   System.out.println("mouse");
 }
}
```

a. mouse

b.

c. Runtime error

d. cat

e. Compilation error

Choose the correct expressions which satisfy the given table for both X and Y

X Y Result

80 -97 true

95 65 true

63 -68 false

9 28 true

55 15 false

47 37 true

a. (x >= 70) || (y > 25)

b.

c. (x >= 10) && (y > 25)

d. (x >= 70) || (y > 35)

e. (x < 75) || (y > -100)

Given the following:

```
public class DoWhileTest {
 public static void main(String[[] args) {
  int i = 2, j = 5;
  do {
   if (i++ > --j)
    continue;
  } while (i < 3);
  System.out.printf("i=%d, j=%d", i, j);
 }
}
```

After execution, what are the values of i and j?

a. i=4, j=4

b. i=3, j=4

c. i=2, j=5

d. i=2, j=4

Choose the correct expressions which satisfy the given table for X

X Result

40 true

95 true

63 false

9 true

a. x < 63

b. x == 40

c. x != 63

d. x != 9

For the code snippet:

```
int m = 0;
while( ++m < 2 )
    System.out.println( m );
```

What is printed to standard output?

- a. 0
- b. 1
- c. 2
- d. Nothing is printed
- e.

Given the following,

```
1. int i = 0;
2. label:
3.     if (i < 2) {
4.         System.out.print(" i is " + i);
5.         i++;
6.         continue label;
7.     }
```

What is the result?

- a. i is 0 i is 1
- b. Produces no output
- c. Compilation fails
- d. i is 0

Given the following,

```
public class Test {
 public static void main(String[[] args) {
  int i = 1;
  do
   while (i < 1)
    System.out.print(" i is " + i);
  while (i > 1);
 }
}
```

What is the result?

- a. i is 1 i is 1 ... in an infinite loop
- b. i is 1
- c. No output is produced.
- d. i is 1 i is 1

Given the following code:

```
public class TestIf {
 public static void main(String[[] args) {
  boolean bFlag = true;
  if (bFlag = false) {
   System.out.print("X");
  } else if (bFlag) {
   System.out.print("Y");
  } else {
   System.out.print("Z");
  }
 }
}
```

What is the result of attempting to compile and run the program?

- a. Prints: X
- b.
- c. Prints: Z
- d. Compile-time error
- e. Prints: Y

Which of the following situation most likely does NOT call for a counting loop?

- a. Adding up all the integers between zero and one hundred.
- b.
- c. Prompting the user of a program until the user responds with correct information.
- d. Writing out a table of Fahrenheit and Celcius temperature equivalents.
- e. Making the computer beep ten times.

Which statement is true about the following code fragment?

```
1. int j = 2;
2. switch (j) {
3.     case 2:
4.         System.out.println("value is two");
5.     case 2 + 1:
6.         System.out.println("value is three");
7.         break;
8.     default:
9.         System.out.println("value is " + j);
10.        break;
11. }
```

a. The output would be

a. The output would be

value is two

value is three

b. The code is illegal because of the expression at line 5

c. The output would be

value is two

value is three

value is 2

d. The output would be

value is two

Given the following code:

```
class SwitchTest {
 public static void main(String args[]) {
  int x = 3;
  int success = 0;
  do {
   switch (x) {
   case 0:
    System.out.print("0");
   x += 5;
```

```
    case 2:
     System.out.print("2");
     x += 1;
     break;
    case 3:
     System.out.print("3");
     x -= 2;
     break;
    default:
     break;
    }
   } while ((x != 1) || (success < 2));
  }
}
```

What is the result of attempting to compile and run the program?

- a. Prints: 311
- b. Compile-time error
- c.
- d. Prints: 3631
- e. Prints: 3621

Choose the correct expressions which satisfy the given table for X

X Result

42 true

79 false

27 false

30 false

- a. x < 79
- b. x == 0
- c. x == 42
- d.

Which of the following is legal?

- a. for (int i=0, j=1; i<10; i++; j++) { }
- b. for (int i=0, j=1; i<10,j<10; i++, j++) { }
- c. for (int i=0, float j=1.0; ; i++, j++) { }
- d. for (int i=0, j=1; i<10; i++, j++) { }

Given the following:

```
public class TestLoop {
 public static void main(String... args) {
  outer: for (int i = 0; i < 2; i++) {
   inner: for (int j = 0; j < 2; j++) {
    if (j == 1)
     continue outer;
    System.out.printf("i=%d, j=%d\n", i, j);
   }
  }
 }
}
```

What is printed to standard output?

- a. i=0, j=0
  i=0, j=1
- b. i=0, j=0
  i=1, j=1
- c. i=0, j=0
- d. i=0, j=0
  i=1, j=0

Which option completes the code to print the message as long as number is greater than 20?

```
int number = 100;
MISSING CODE {
    System.out.println("The number = " + number);
    number --;
}
```

a. do while (number > 20)

b. if (number >20)

c.

d. for (number > 20)

e. while (number > 20)

```
public class If1
{
   static boolean b;
   public static void main(String [[] args)
   {
      short hand = 42;
      if ( hand < 50 && !b ) /* Line 7 */
         hand++;
      if ( hand > 50 );    /* Line 9 */
      else if ( hand > 40 )
      {
         hand += 7;
         hand++;
      }
      else
         --hand;
      System.out.println(hand);
   }
}
```

Choose the correct answer(s) from the following:

Choose the correct answer(s) from the following:

- a. 51
- b. 41
- c. 42
- d. 50

Given the following code:

```
public class TestIf {
 public static void main(String[[] args) {
  boolean bFlag = true;
  if (bFlag = false) {
   System.out.print("X");
  } else if (bFlag) {
   System.out.print("Y");
  } else {
   System.out.print("Z");
  }
 }
}
```

What is the result of attempting to compile and run the program?

- a. Prints: Z
- b. Compile-time error
- c. Prints: Y
- d. Prints: X

Given the following code:

```
public class TestIf {
 public static void main(String[[] args) {
  boolean bFlag = true;
  if (bFlag = false) {
   System.out.print("X");
  } else if (bFlag) {
   System.out.print("Y");
  } else {
   System.out.print("Z");
  }
 }
}
```

What is the result of attempting to compile and run the program?

- a. Prints: Z
- b. Compile-time error
- c. Prints: Y
- d. Prints: X

Which of the following is most likely to use a sentinel loop?

- a. Trying various letter substitution combinations until a message in a secret code can be read.
- b. Checking if a particular integer is even or odd.
- c. Checking that each price in a list of items offered for sale is less than $125.
- d. Asking the user at the end of a game if the user wants to play again.

Which flow control mechanism determines when a block of code should run more than once?

- a. exceptions
- b. sequence
- c.
- d. iteration
- e. selection

Given:

```
switch( i)
{
    default :
        System.out.println("Hello");
}
```

What is the acceptable type for the variable i?

- a. byte
- b. double
- c. Object
- d. float

Given the following code:

```
public class JavaRunTest {
 public static void main(String[[] args) {
  int i = 0, j = 8;
  do {
   if (j < 4) {
    break;
   } else if (j-- < 7) {
    continue;
   }
   i++;
  } while (i++ < 5);
  System.out.print(i + "," + j);
 }
}
```

What is the result of attempting to compile and run the program?

a.

b. Prints: 6,5

c. Prints: 5,7

d. Prints: 6,4

e. Prints: 5,4

What is the output of the below program?

```
public class IfExample {
 public static void main(String[[] args) {
  int var1;
  if (var1) {
   System.out.println("Inside If Condition");
  }
 }
}
```

a. Runtime error

b. Inside If Condition

c. Successfully compiled

d. Compilation error

What three parts of a counting loop must be coordinated in order for the loop to work properly?

- a. initializing the condition, changing the condition, terminating the loop
- b. initializing the counter, testing the counter, changing the counter
- c. the while, the assignment, and the loop body
- d. the while statement, the if statement, and sequential execution.

Given the following code:

```
public class TestForSwitch {
 public static void main(String[[] args) {
  for (int i = 0; i < 3; i++) {
   switch (i) {
   default:
    System.out.print("D");
   case 0:
    System.out.print("0");
   case 1:
    System.out.print("1");
   }
  }
```

What is the result of attempting to compile and run the program?

- a. Prints: DDD
- b. Prints: 01D
- c.
- d. Prints 011D01
- e. Prints: 01D01

Which of the following is most likely to use a counting loop?

- a. Checking if a particular integer is even or odd.
- b. Checking that each price in a list of items offered for sale is less than $125.
- c. Asking the user at the end of a game if the user wants to play again.
- d. Trying various letter substitution combinations until a message in a secret code can be read.

What will be the output of the program?

```
int I = 0;
label:
    if (I < 2) {
    System.out.print("I is " + I);
    I++;
    continue label;
}
```

- a. None of the mentioned
- b. I is 0
- c. Compilation fails.
- d.
- e. I is 0 I is 1

What will be the output of the program?

```
int i = l, j = -1;
switch (i)
{
   case 0, 1: j = 1; /* Line 4 */
   case 2: j = 2;
   default: j = 0;
}
System.out.println("j = " + j);
```

- a. j = 1
- b. j = -1
- c.
- d. j = 0
- e. Compilation fails.

What will be the output of the program?

```
int x = 3;
int y = 1;
if (x == y) /* Line 3 */
{
   System.out.println("x =" + x);
}
```

- a. x = 1
- b. The code runs with no output.
- c. x = 3
- d. Compilation fails.

Suppose you are writing code for a for loop that must execute thre

Suppose you are writing code for a for loop that must execute three times. Which is the correct decla

a. for (int i = 0; i < 4; i++)

b. for (int i = 1; i++; i < 4)

c. for (int i < 4; i = 1; i++)

d. for (int i = 3; i >=1; i--)

e.

What is the output of the below program?

```
class SwitchControl {
 public static void main(String[[] args) {
  int i = 10;
  switch(i);
```

What is the output of the below program?

```
class SwitchControl {
 public static void main(String[[] args) {
  int i = 10;
   switch(i);
    break;
 }
}
```

- a. Case false!
- b. Default Case
- c. Case true!
- d. Compilation Error

Given the following:

```
public class TestLoop {
 public static void main(String... args) {
  int index = 2;
  while (--index > 0)
   System.out.println(index);
```

Given the following:

```
public class TestLoop {
 public static void main(String... args) {
  int index = 2;
  while (--index > 0)
   System.out.println(index);
 }
}
```

What is printed to standard output?

- a. 1
- b. Nothing is printed
- c. 0
- d.
- e. 2