

Examen de Certificación III

1. Given:

```
class Hexy {  
    public static void main(String[] args) {  
        int i = 42;  
        String s = (i<40)?"life":(i>50)?"universe":"everything";  
        System.out.println(s);  
    }  
}
```

What is the result?

- A. null
- B. life
- C. universe
- D. everything
- E. Compilation fails
- F. An exception is thrown at runtime

2. Given:

```
class Felix {  
    public static void main(String[] args) {  
        long x = 42L;  
        long y = 44L;  
        System.out.print(" " + 7 + 2 + " ");  
        System.out.print(foo() + x + 5 + " ");  
        System.out.println(x + y + foo());  
    }  
    static String foo() { return "foo"; }  
}
```

What is the result?

- A. 9 foo47 86foo
- B. 9 foo47 4244foo
- C. 9 foo425 86foo
- D. 9 foo425 4244foo
- E. 72 foo47 86foo

3. Given:

```
3. public class McGee {  
4.     public static void main(String[] args) {  
5.         Days d1 = Days.TH;  
6.         Days d2 = Days.M;  
7.         for(Days d: Days.values()) {  
8.             if(d.equals(Days.F)) break;  
9.             d2 = d;  
10.        }  
11.        System.out.println((d1 == d2)?"same old" : "newly new");  
12.    }  
13.    enum Days {M, T, W, TH, F, SA, SU};  
14. }
```

What is the result?

- A. same old
- B. newly new
- C. Compilation fails due to multiple errors
- D. Compilation fails due only to an error on line 7
- E. Compilation fails due only to an error on line 8
- F. Compilation fails due only to an error on line 11

G. Compilation fails due only to an error on line 13

4. Given:

```
3. interface Vessel { }
4. interface Toy { }
5. class Boat implements Vessel { }
6. class Speedboat extends Boat implements Toy { }
7. public class Tree {
8.     public static void main(String[] args) {
9.         String s = "0";
10.        Boat b = new Boat();
11.        Boat b2 = new Speedboat();
12.        Speedboat s2 = new Speedboat();
13.        if((b instanceof Vessel) && (b2 instanceof Toy)) s += "1";
14.        if((s2 instanceof Vessel) && (s2 instanceof Toy)) s += "2";
15.        System.out.println(s);
16.    }
17. }
```

What is the result?

- A. 0
- B. 01
- C. 02
- D. 012**
- E. Compilation fails
- F. An exception is thrown at runtime

5. Given:

```
3. public class Spock {
4.     public static void main(String[] args) {
5.         int mask = 0;
6.         int count = 0;
7.         if( ((5<7) || (++count < 10)) | mask++ < 10 )mask = mask + 1;
8.         if( (6 > 8) ^ false) mask = mask + 10;
9.         if( !(mask > 1) && ++count > 1) mask = mask + 100;
10.        System.out.println(mask + " " + count);
11.    }
12. }
```

Which two are true about the value of mask and the value of count at line 10? (Choose two.)

- A. mask is 0
- B. mask is 1
- C. mask is 2**
- D. mask is 10
- E. mask is greater than 10
- F. count is 0**
- G. count is greater than 0

6. Which of the following statements are correct? (Choose all that apply.)

- A. The return value of an assignment operation expression can be void.
- B. The inequality operator (!=) can be used to compare objects.
- C. The equality operator (==) can be used to compare a boolean value with a numeric value.
- D. During runtime, the && and | operators may cause only the left side of the expression to be evaluated.

E. The return value of an assignment operation expression is the value of the newly assigned variable.

F. In Java, 0 and false may be used interchangeably.

G. The logical complement operator (!) cannot be used to flip numeric values.

7. What is the output of the following code snippet?

```
boolean sunny = true, raining = false, sunday = true;
boolean goingToTheStore = sunny & raining ^ sunday;
boolean goingToTheZoo = sunday && !raining;
boolean stayingHome = !(goingToTheStore && goingToTheZoo);
System.out.println(goingToTheStore + "-" + goingToTheZoo
    + "-" +stayingHome);
```

A. true-false-false

B. false-true-false

C. true-true-true

D. false-true-true

E. false-false-false

F. true-true-false

G. None of the above

8. How many lines of the following code contain compiler errors?

```
int note = 1 * 2 + (long)3;
short melody = (byte)(double)(note *= 2);
double song = melody;
float symphony = (float)((song == 1_000f) ? song * 2L : song);
```

A. 0

B. 1

C. 2

D. 3

E. 4

9. What is the output of the following code snippet?

```
4: int pig = (short)4;
5: pig = pig++;
6: long goat = (int)2;
7: goat -= 1.0;
8: System.out.print(pig + " - " + goat);
```

A. 4 - 1

B. 4 - 2

C. 5 - 1

D. 5 - 2

E. The code does not compile due to line 7.

F. None of the above

10. What change, when applied independently, would allow the following code snippet to compile? (Choose all that apply.)

```
3: long ear = 10;
4: int hearing = 2 * ear;
```

- A. No change; it compiles as is.
- B. Cast ear on line 4 to int.
- C. Change the data type of ear on line 3 to short.
- D. Cast 2 * ear on line 4 to int.
- E. Change the data type of hearing on line 4 to short.
- F. Change the data type of hearing on line 4 to long.