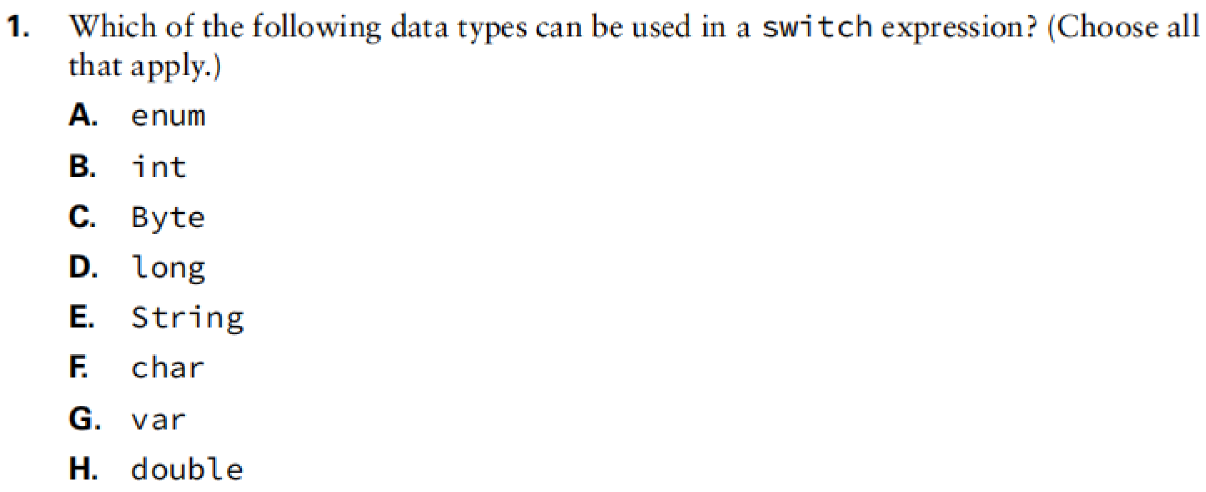


1. Which of the following data types can be used in a `switch` expression? (Choose all that apply.)

   A. `enum`

   B. `int`

   C. `Byte`

   D. `long`

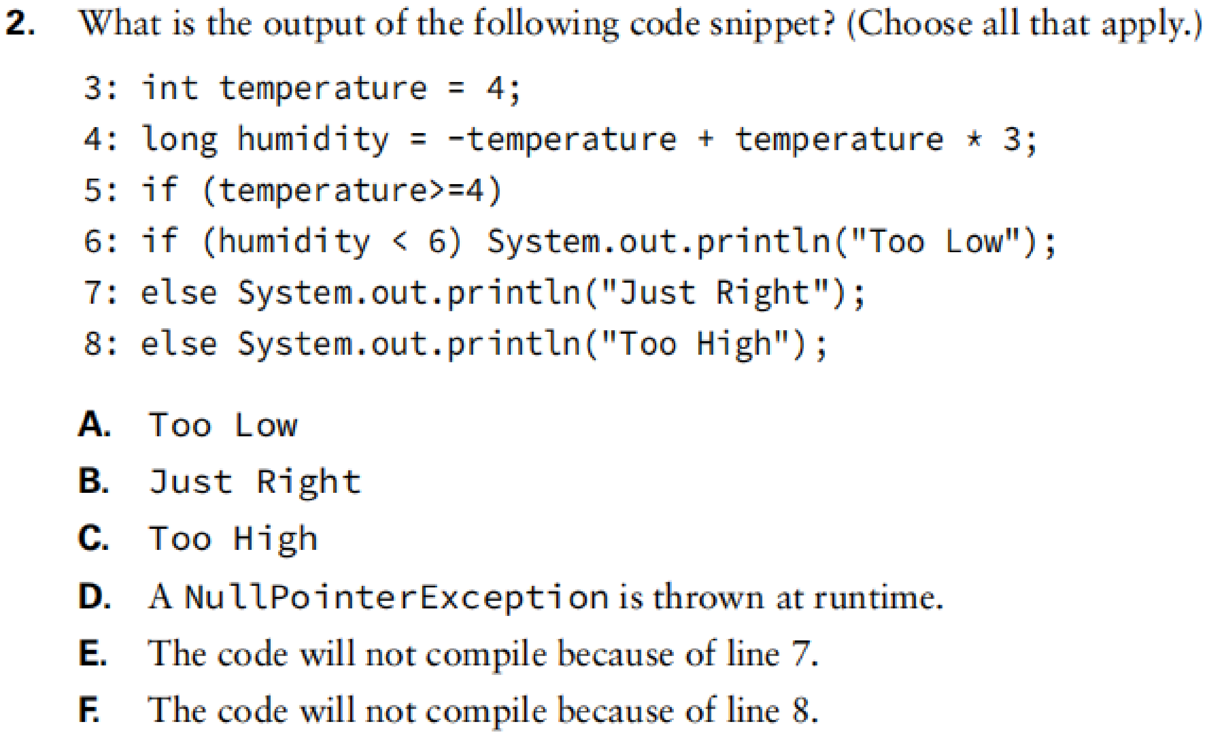
   E. `String`

   F. `char`

   G. `var`

   H. `double`

A, B, C, E, F, G
según el libro estos son los datos que soporta int and Integer, byte and Byte, short and Short, char and Character, String, enum values, var (if the type resolves to one of the preceding types)



2. What is the output of the following code snippet? (Choose all that apply.)

```
3: int temperature = 4;
4: long humidity = -temperature + temperature * 3;
5: if (temperature>=4)
6: if (humidity < 6) System.out.println("Too Low");
7: else System.out.println("Just Right");
8: else System.out.println("Too High");
```

   A. `Too Low`

   B. `Just Right`

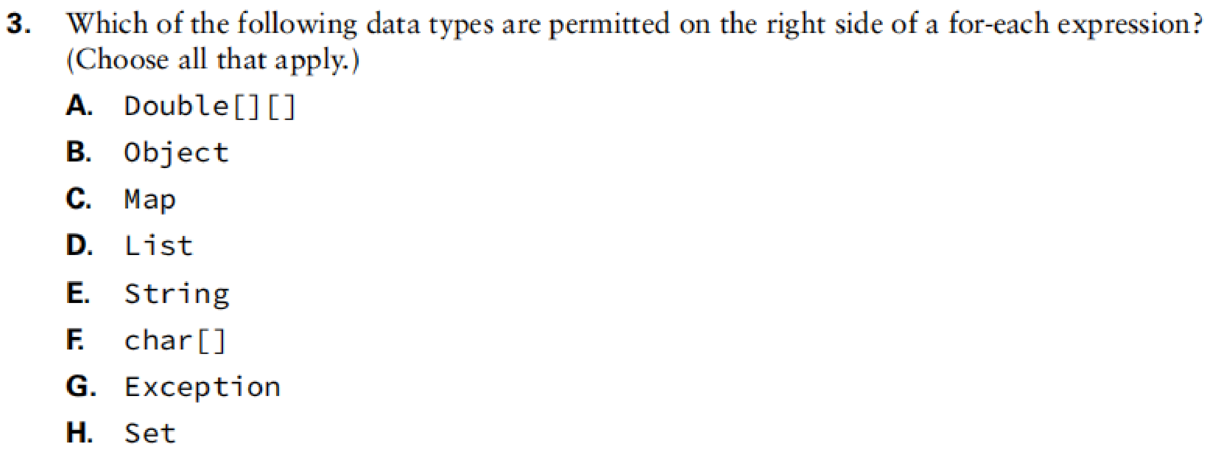
   C. `Too High`

   D. A `NullPointerException` is thrown at runtime.

   E. The code will not compile because of line 7.

   F. The code will not compile because of line 8.

La respuesta es B
Aqui lo que me imagino pasa es que no llega al 2do else en general



3. Which of the following data types are permitted on the right side of a for-each expression? (Choose all that apply.)

A. `Double[][]`

B. `Object`

C. `Map`

D. `List`

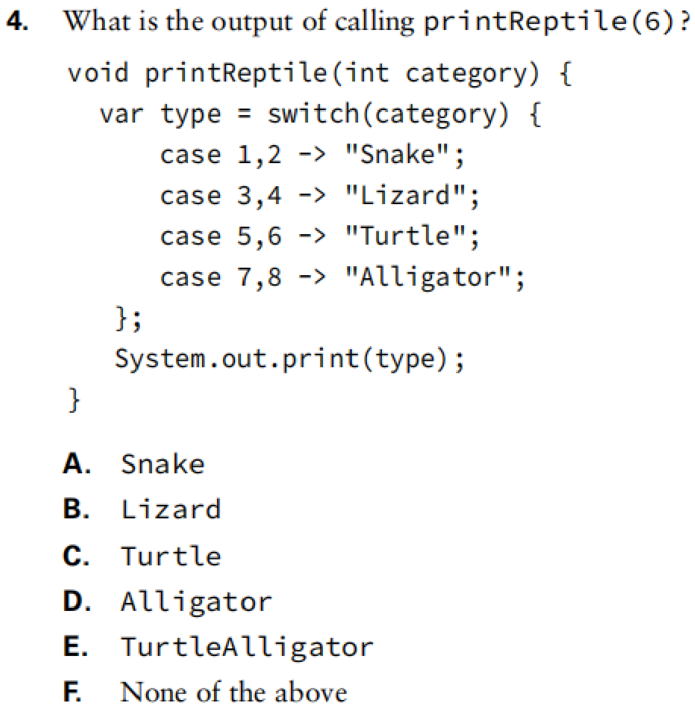
E. `String`

F. `char[]`

G. `Exception`

H. `Set`

esto es lo que habia puesto C, D, H
B. Object: Object no es una colección ni un array, y no implementa Iterable. Así que no se puede usar directamente en un bucle for-each.
E. String: Aunque String es una secuencia de caracteres, no implementa Iterable, por lo que no se puede usar en un bucle for-each de forma directa. El libro aclara que aunque un String puede ser considerado como una lista de caracteres, no implementa la interfaz Iterable, que es necesaria para el bucle for-each.
pero la respuesta correcta A, D, F, H



4. What is the output of calling `printReptile(6)`?

```
void printReptile(int category) {
  var type = switch(category) {
      case 1,2 -> "Snake";
      case 3,4 -> "Lizard";
      case 5,6 -> "Turtle";
      case 7,8 -> "Alligator";
   };
   System.out.print(type);
}
```

A. `Snake`

B. `Lizard`

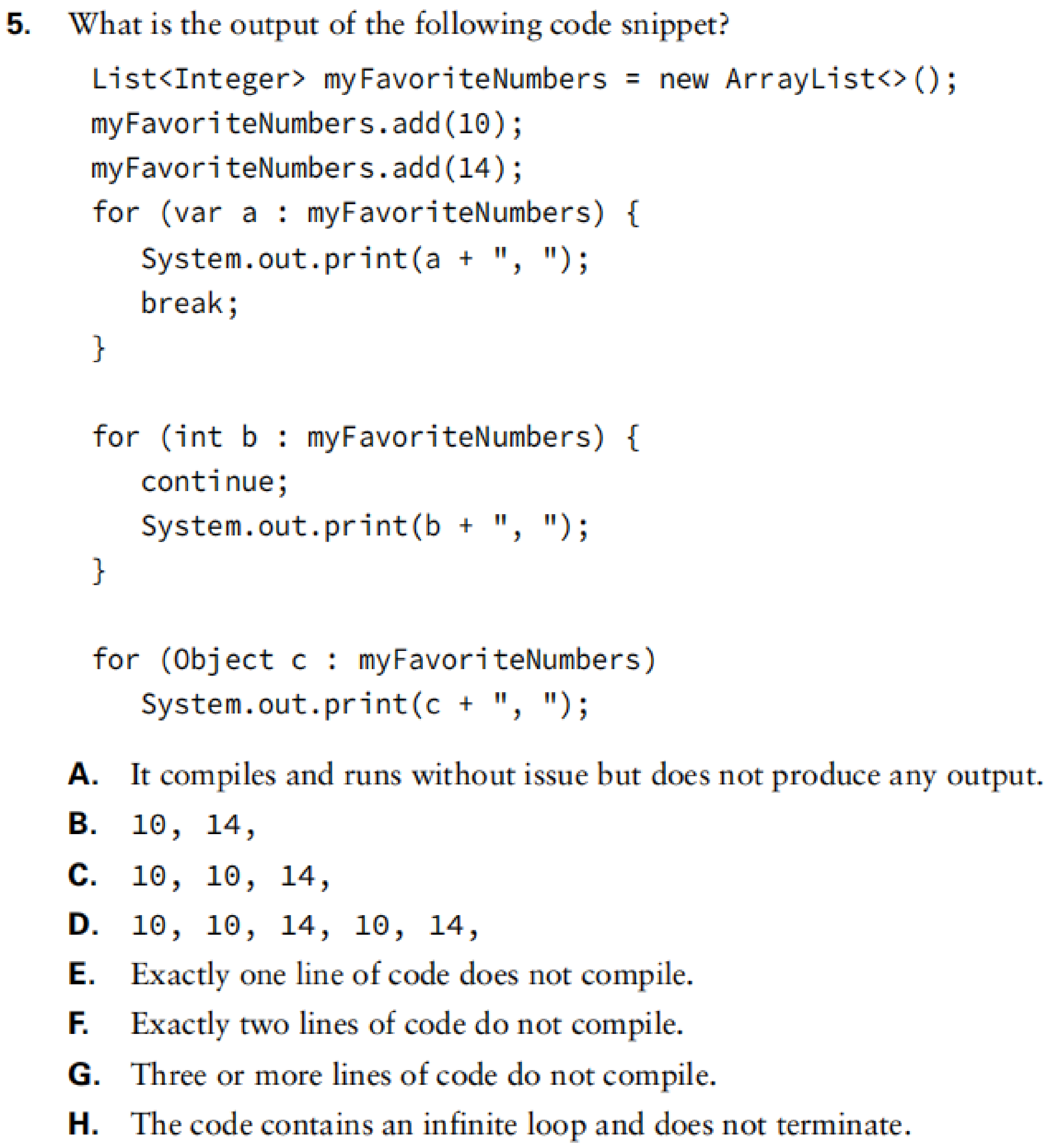
C. `Turtle`

D. `Alligator`

E. `TurtleAlligator`

F. None of the above

La respuesta es F



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

```
List<Integer> myFavoriteNumbers = new ArrayList<>();
myFavoriteNumbers.add(10);
myFavoriteNumbers.add(14);
for (var a : myFavoriteNumbers) {
   System.out.print(a + ", ");
   break;
}

for (int b : myFavoriteNumbers) {
   continue;
   System.out.print(b + ", ");
}

for (Object c : myFavoriteNumbers)
   System.out.print(c + ", ");
```

A. It compiles and runs without issue but does not produce any output.

B. `10, 14,`

C. `10, 10, 14,`

D. `10, 10, 14, 10, 14,`

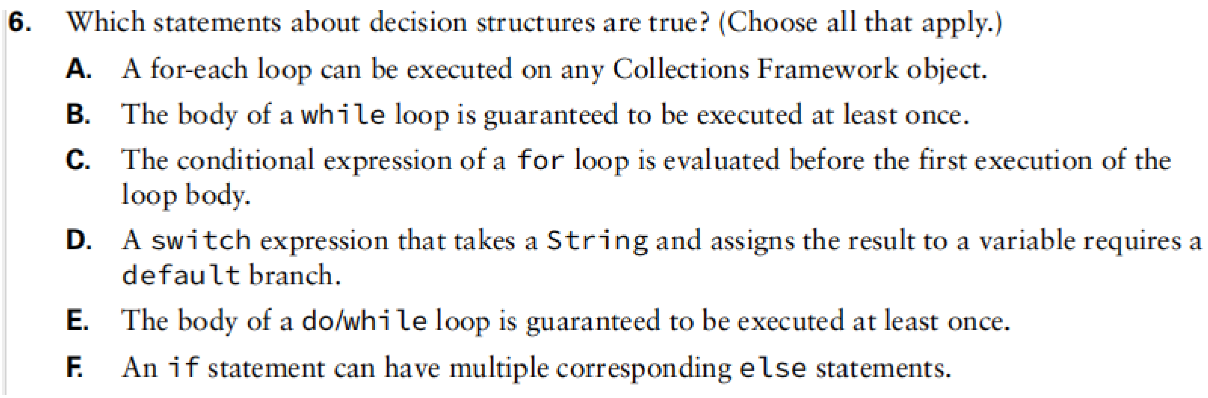
E. Exactly one line of code does not compile.

F. Exactly two lines of code do not compile.

G. Three or more lines of code do not compile.

H. The code contains an infinite loop and does not terminate.

La respuesta es E suponiendo que List y ArrayList se importaron del java util sino estos también arrojan un error



6. Which statements about decision structures are true? (Choose all that apply.)

A. A for-each loop can be executed on any Collections Framework object.

B. The body of a `while` loop is guaranteed to be executed at least once.

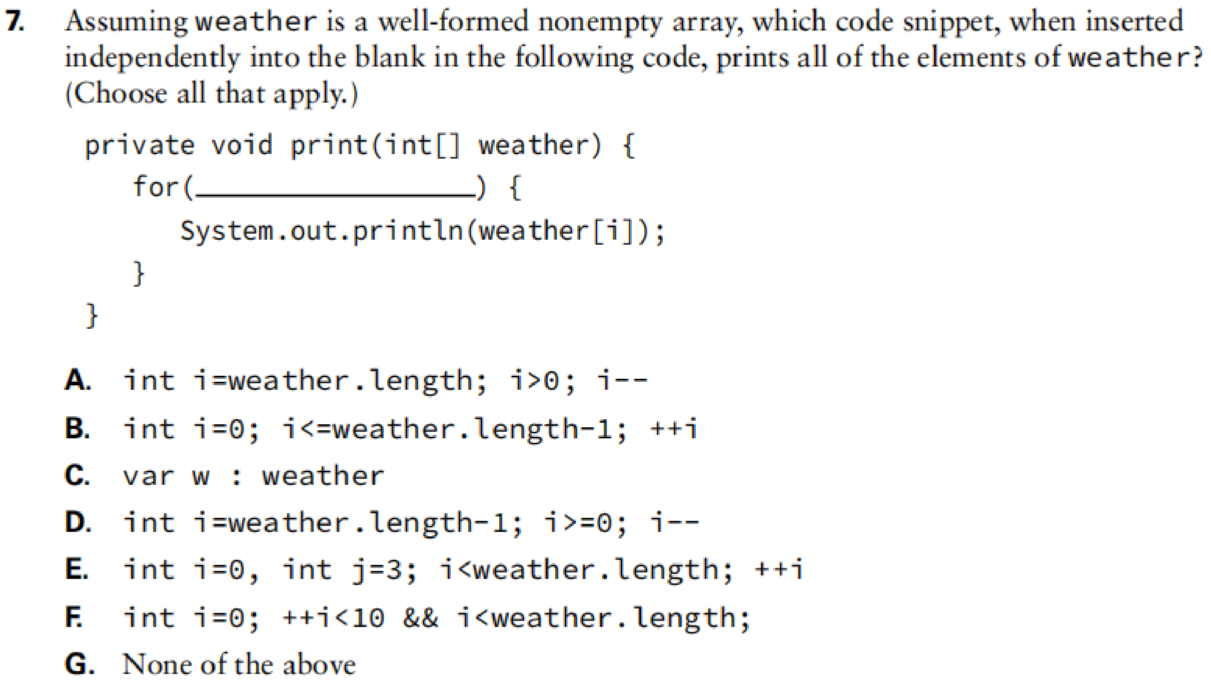
C. The conditional expression of a `for` loop is evaluated before the first execution of the loop body.

D. A `switch` expression that takes a `String` and assigns the result to a variable requires a `default` branch.

E. The body of a `do/while` loop is guaranteed to be executed at least once.

F. An `if` statement can have multiple corresponding `else` statements.

Esto es lo que había respondido C, E
pero me falto la D entonces para switch de Strings es necesario manejar con un default los casos no contemplados



7. Assuming `weather` is a well-formed nonempty array, which code snippet, when inserted independently into the blank in the following code, prints all of the elements of `weather`? (Choose all that apply.)

```
private void print(int[] weather) {
   for(_______________) {
      System.out.println(weather[i]);
   }
}
```

A. `int i=weather.length; i>0; i--`

B. `int i=0; i<=weather.length-1; ++i`

C. `var w : weather`

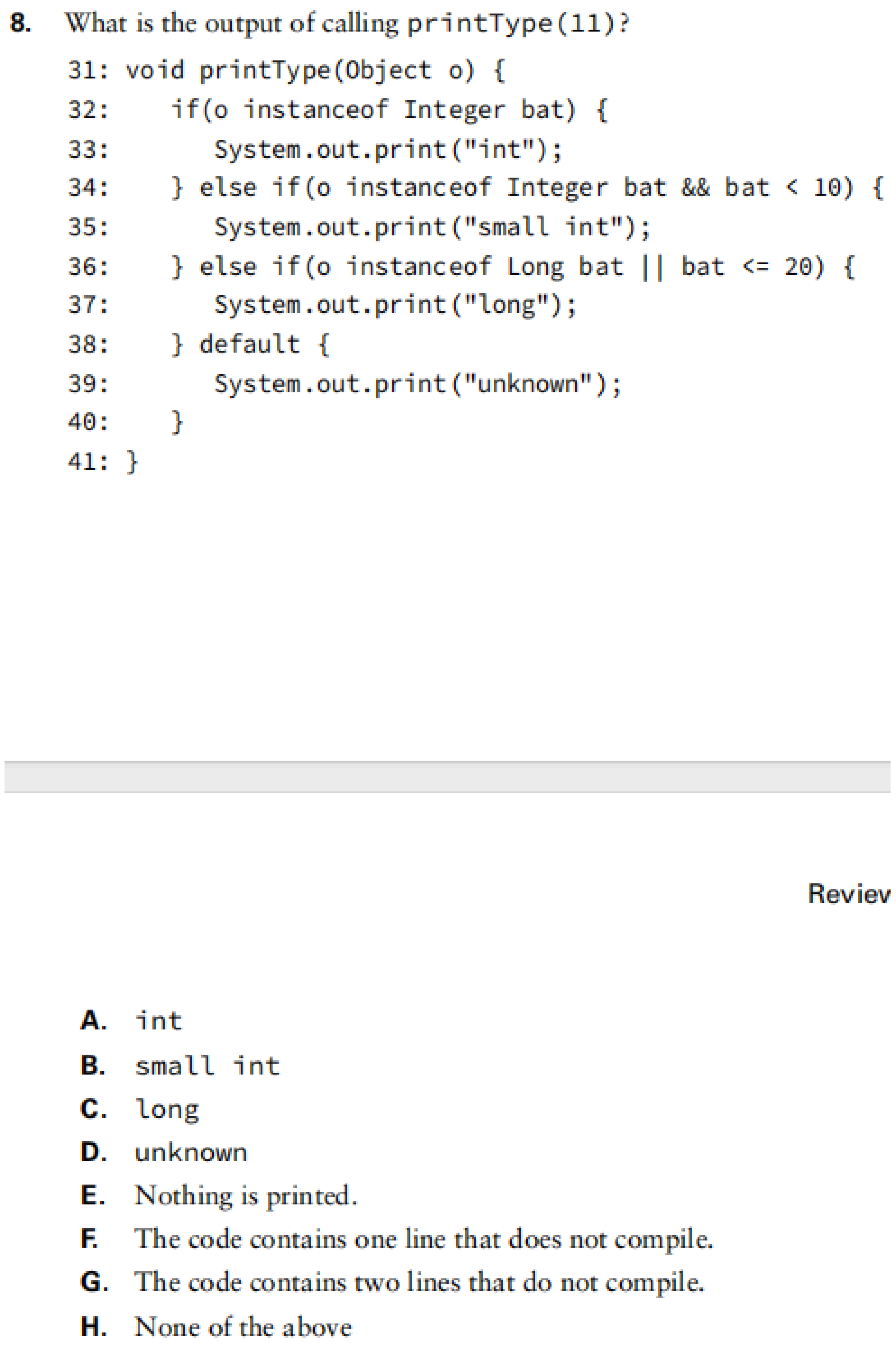
D. `int i=weather.length-1; i>=0; i--`

E. `int i=0, int j=3; i<weather.length; ++i`

F. `int i=0; ++i<10 && i<weather.length;`

G. None of the above

La respuesta para esto es B, D



8. What is the output of calling `printType(11)`?

```
void printType(Object o) {
   if(o instanceof Integer bat) {
      System.out.print("int");
   } else if(o instanceof Integer bat && bat < 10) {
      System.out.print("small int");
   } else if(o instanceof Long bat || bat <= 20) {
      System.out.print("long");
   } default {
      System.out.print("unknown");
   }
}
```

Reviev

A. `int`

B. `small int`

C. `long`

D. `unknown`

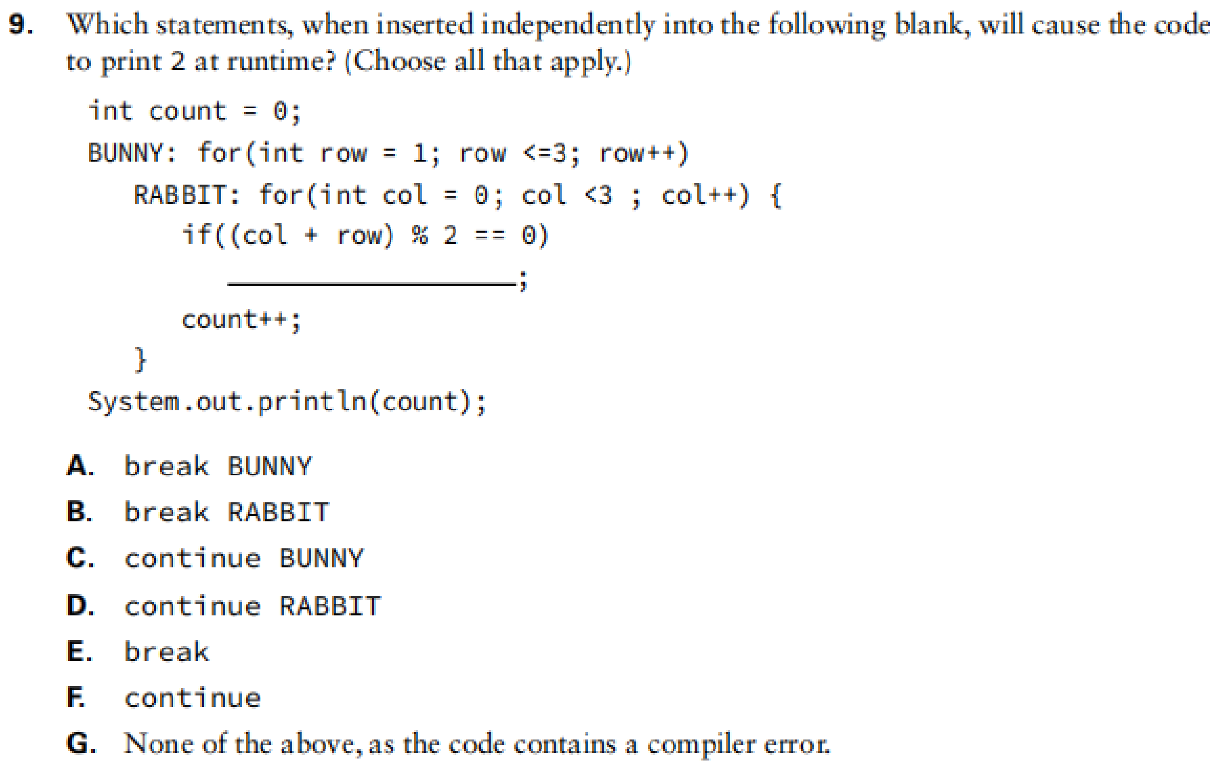
E. Nothing is printed.

F. The code contains one line that does not compile.

G. The code contains two lines that do not compile.

H. None of the above

La respuesta es la G



9. Which statements, when inserted independently into the following blank, will cause the code to print 2 at runtime? (Choose all that apply.)

```
int count = 0;
BUNNY: for(int row = 1; row <=3; row++)
   RABBIT: for(int col = 0; col <3 ; col++) {
      if((col + row) % 2 == 0)
         ___________________;
      count++;
   }
System.out.println(count);
```

A. `break BUNNY`

B. `break RABBIT`

C. `continue BUNNY`

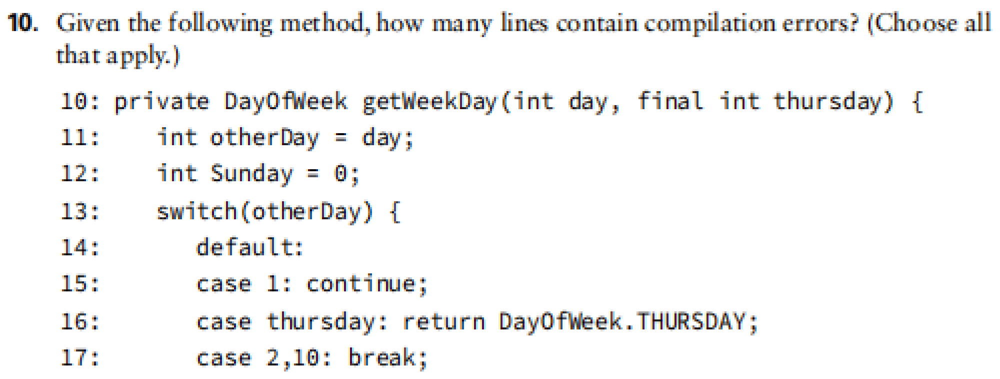
D. `continue RABBIT`

E. `break`

F. `continue`

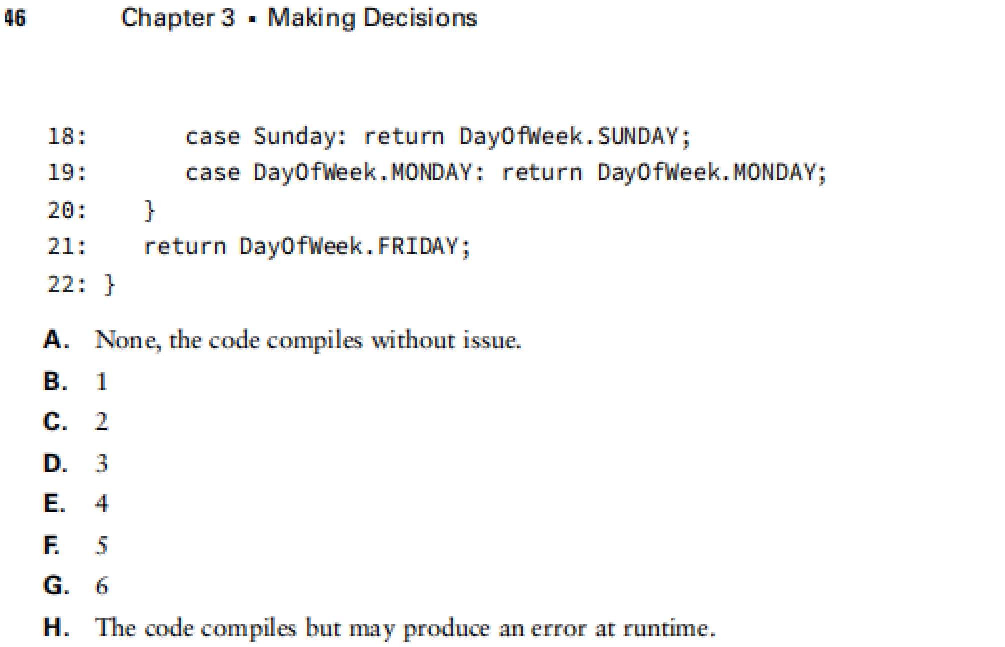
G. None of the above, as the code contains a compiler error.

La respuesta es B, C, E



10. Given the following method, how many lines contain compilation errors? (Choose all that apply.)

```
10: private DayOfWeek getWeekDay(int day, final int thursday) {
11:    int otherDay = day;
12:    int Sunday = 0;
13:    switch(otherDay) {
14:       default:
15:       case 1: continue;
16:       case thursday: return DayOfWeek.THURSDAY;
17:       case 2,10: break;
```



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```
18:       case Sunday: return DayOfWeek.SUNDAY;
19:       case DayOfWeek.MONDAY: return DayOfWeek.MONDAY;
20:    }
21:    return DayOfWeek.FRIDAY;
22: }
```

A. None, the code compiles without issue.

B. 1

C. 2

D. 3

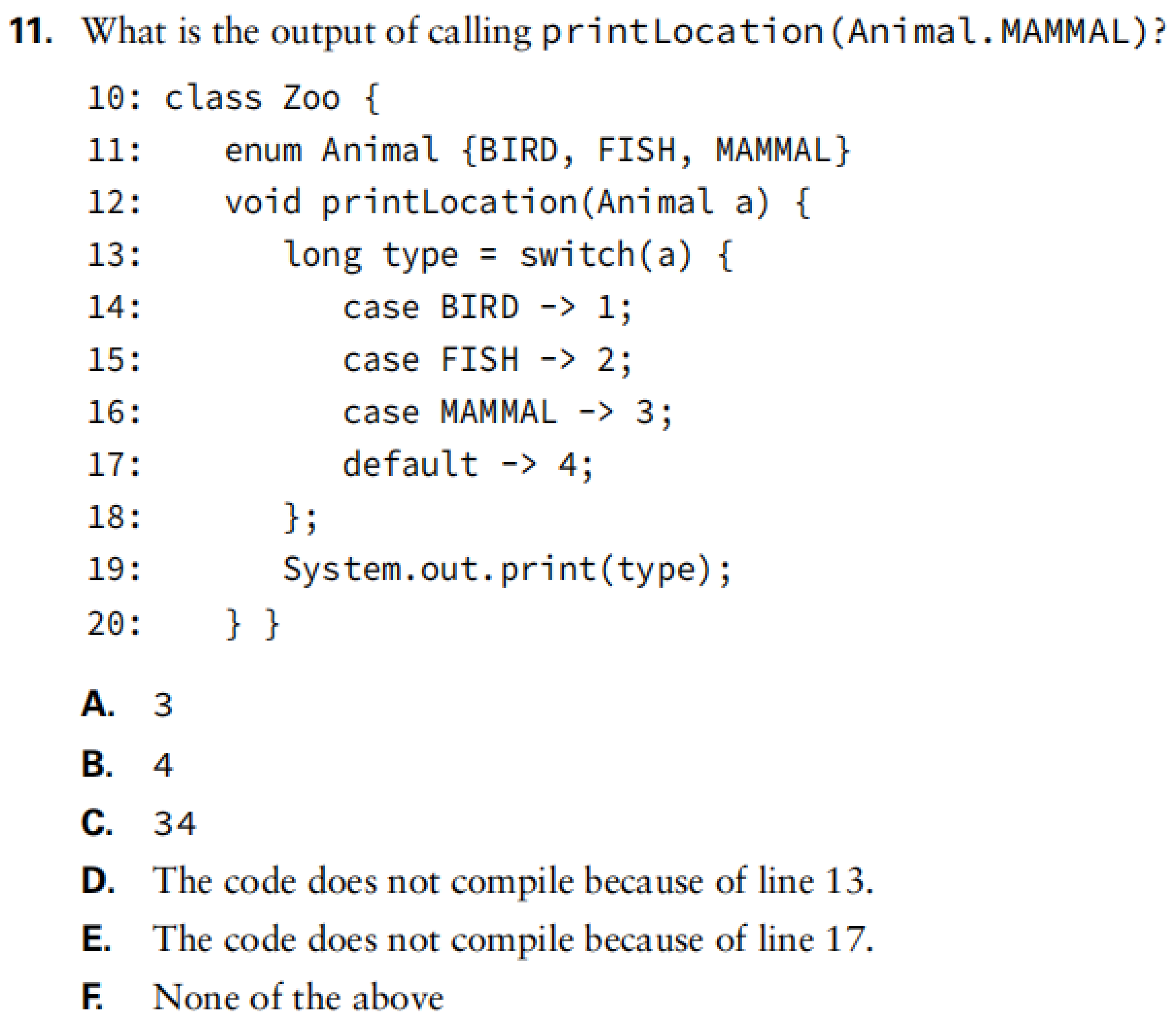
E. 4

F. 5

G. 6

H. The code compiles but may produce an error at runtime.

La respuesta es E
no se puede usar continue en un switch 1
en la 15 hay otro ya que thurday debe ser Final y debe de conocer su valor 2
Sunday no es final aunque si conocemos su valor 1



11. What is the output of calling `printLocation(Animal.MAMMAL)`?

```
10: class Zoo {
11:     enum Animal {BIRD, FISH, MAMMAL}
12:     void printLocation(Animal a) {
13:         long type = switch(a) {
14:             case BIRD -> 1;
15:             case FISH -> 2;
16:             case MAMMAL -> 3;
17:             default -> 4;
18:         };
19:         System.out.print(type);
20:     } }
```

A. 3

B. 4

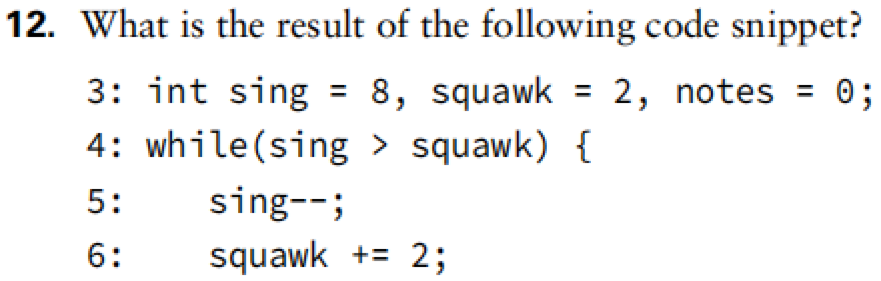
C. 34

D. The code does not compile because of line 13.

E. The code does not compile because of line 17.

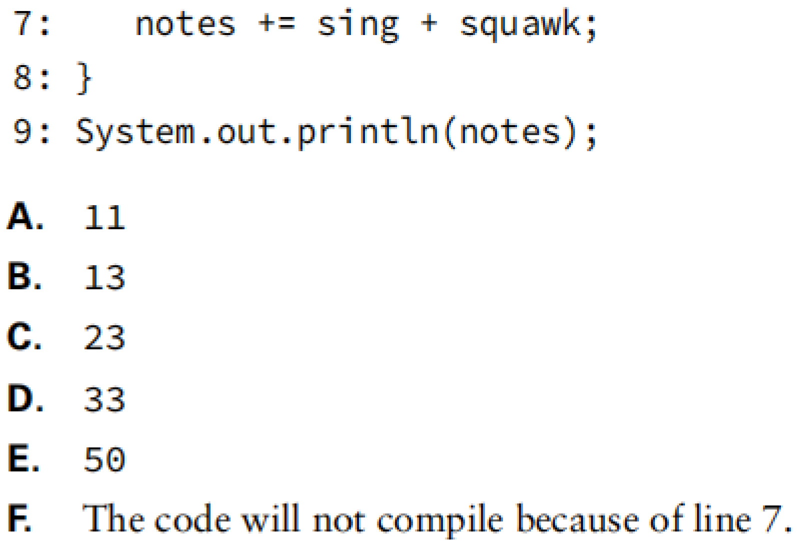
F. None of the above

La respuesta es E
no estaba leyendo bien la pregunta



12. What is the result of the following code snippet?

```
3: int sing = 8, squawk = 2, notes = 0;
4: while(sing > squawk) {
5:    sing--;
6:    squawk += 2;
```



```
7:    notes += sing + squawk;
8: }
9: System.out.println(notes);
```

A. 11

B. 13

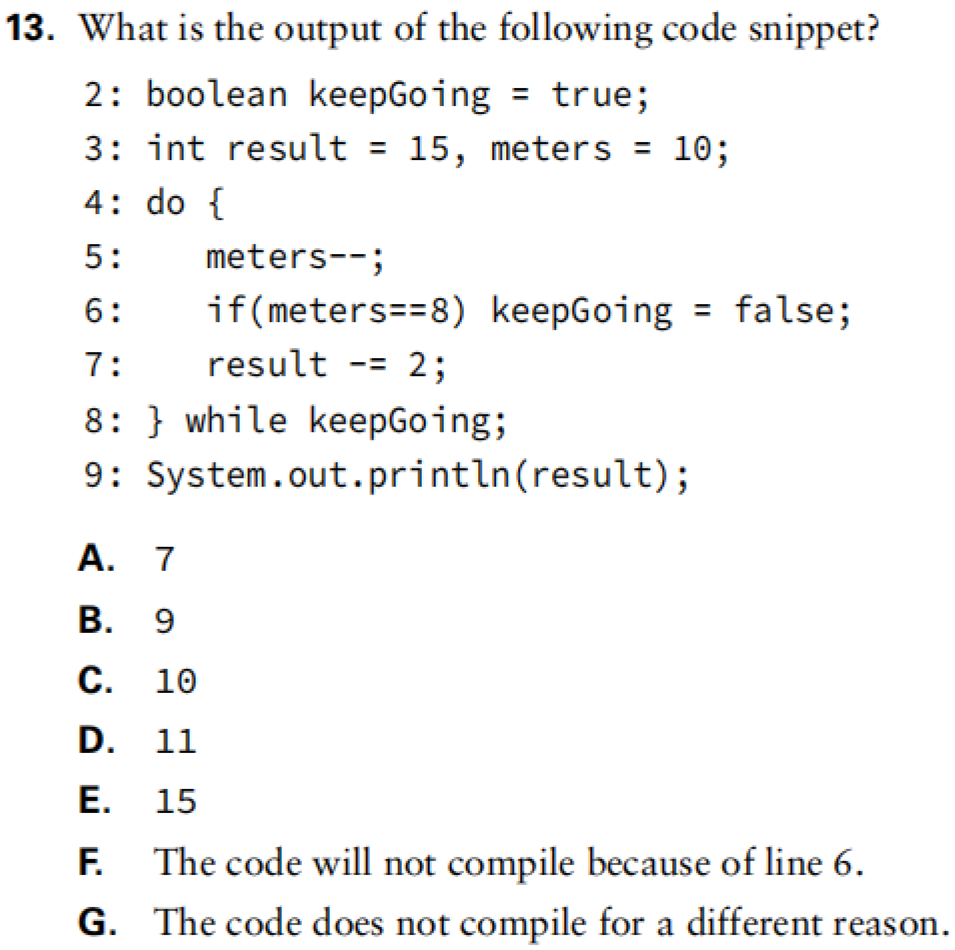
C. 23

D. 33

E. 50

F. The code will not compile because of line 7.

La respuesta es C al parecer entra al while y lo hace 2 veces en la primera sing es 7 y aquawk 4 y entra de nuevo porque sing > squawk y ya en esta vuelta son sing 6 y squawk 6 sale del while e imprime notes = 23



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

```
2: boolean keepGoing = true;
3: int result = 15, meters = 10;
4: do {
5:    meters--;
6:    if(meters==8) keepGoing = false;
7:    result -= 2;
8: } while keepGoing;
9: System.out.println(result);
```

A. 7

B. 9

C. 10

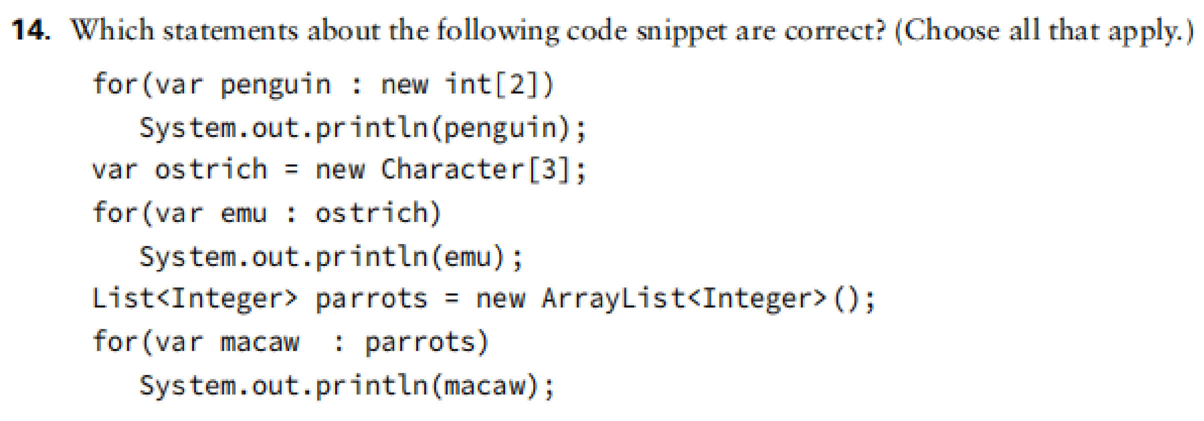
D. 11

E. 15

F. The code will not compile because of line 6.

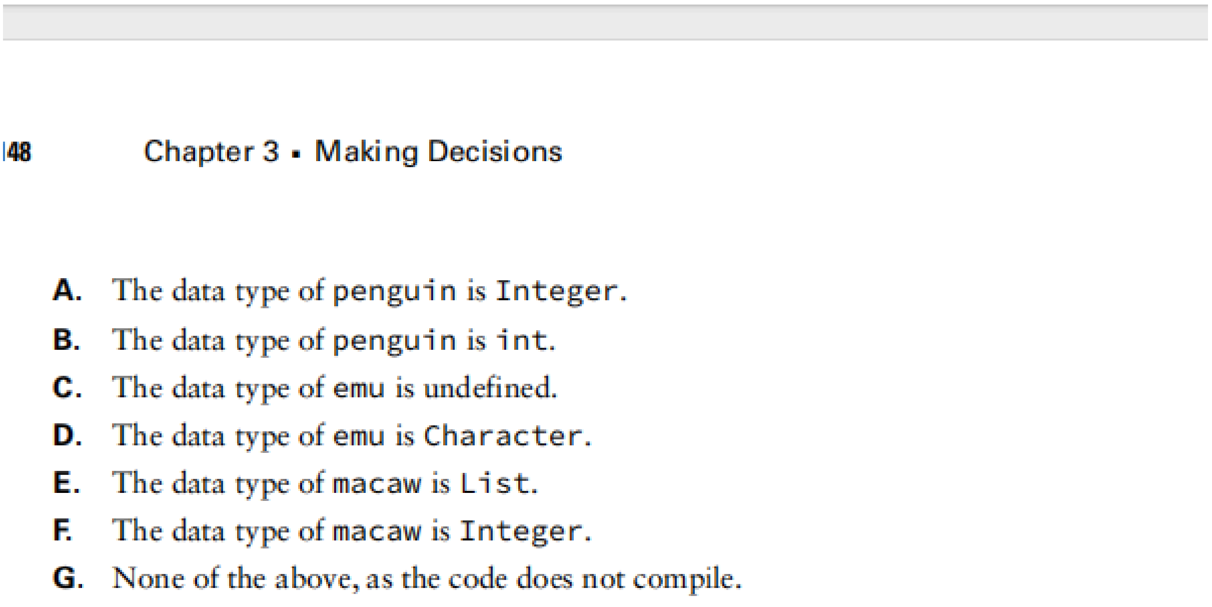
G. The code does not compile for a different reason.

La respuesta es G yo veia raro el keepgoing de la linea 8 aunque segun el libro le faltan los parentesis



14. Which statements about the following code snippet are correct? (Choose all that apply.)

```
for(var penguin : new int[2])
   System.out.println(penguin);
var ostrich = new Character[3];
for(var emu : ostrich)
   System.out.println(emu);
List<Integer> parrots = new ArrayList<Integer>();
for(var macaw  : parrots)
   System.out.println(macaw);
```



A. The data type of penguin is Integer.

B. The data type of penguin is int.

C. The data type of emu is undefined.

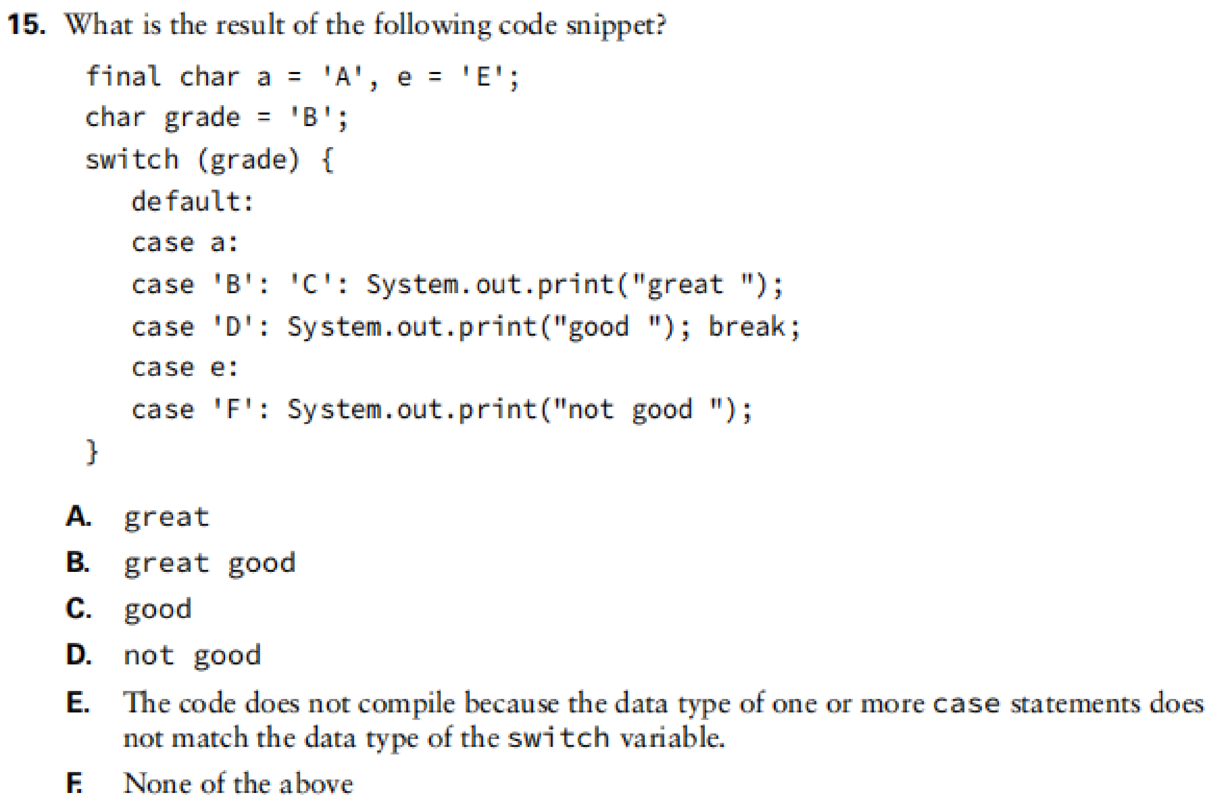
D. The data type of emu is Character.

E. The data type of macaw is List.

F. The data type of macaw is Integer.

G. None of the above, as the code does not compile.

La respuesta correcta es la B, D, F



15. What is the result of the following code snippet?

```
final char a = 'A', e = 'E';
char grade = 'B';
switch (grade) {
   default:
   case a:
   case 'B': 'C': System.out.print("great ");
   case 'D': System.out.print("good "); break;
   case e:
   case 'F': System.out.print("not good ");
}
```

A. `great`

B. `great good`

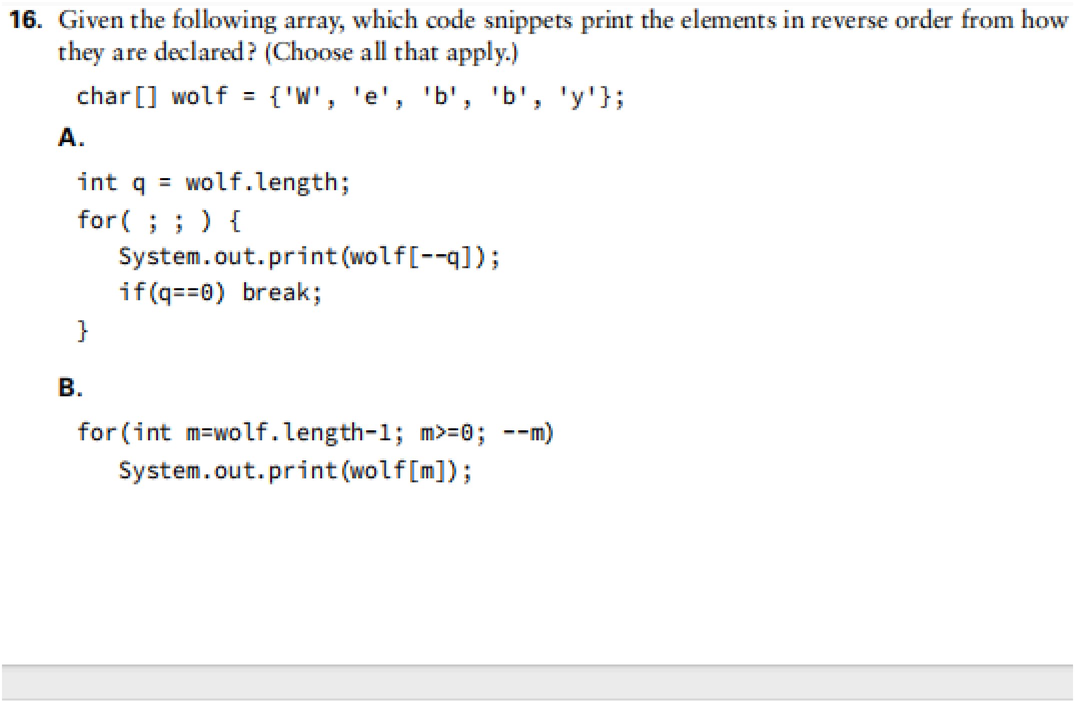
C. `good`

D. `not good`

E. The code does not compile because the data type of one or more `case` statements does not match the data type of the `switch` variable.

F. None of the above

Estoy entre D y F porque le faltan breaks entonces en caso de que llegue a entrar al switch se iria al ultimo y F porque case ‘B’ no se si esta escrito bien y resulto ser F la respuesta correcta por el error de sintaxis



16. Given the following array, which code snippets print the elements in reverse order from how they are declared? (Choose all that apply.)

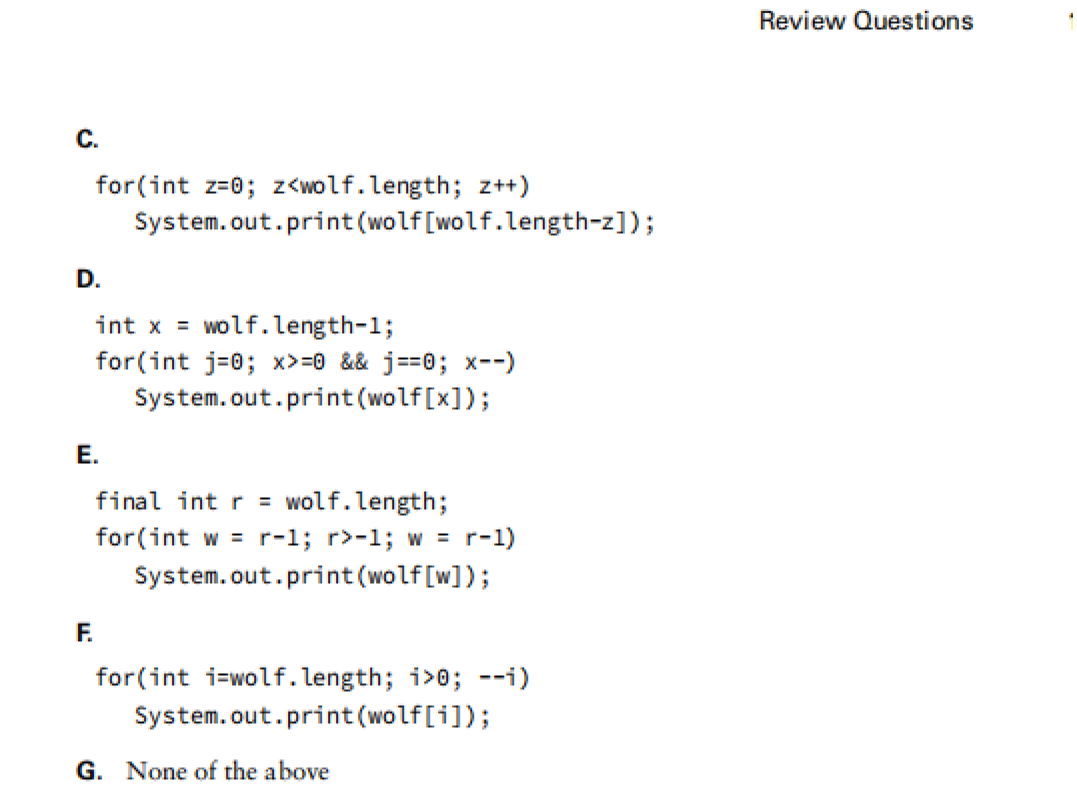
```
char[] wolf = {'W', 'e', 'b', 'b', 'y'};
```

A.

```
int q = wolf.length;
for( ; ; ) {
   System.out.print(wolf[--q]);
   if(q==0) break;
}
```

B.

```
for(int m=wolf.length-1; m>=0; --m)
   System.out.print(wolf[m]);
```



C.

```
for(int z=0; z<wolf.length; z++)
   System.out.print(wolf[wolf.length-z]);
```

D.

```
int x = wolf.length-1;
for(int j=0; x>=0 && j==0; x--)
   System.out.print(wolf[x]);
```

E.

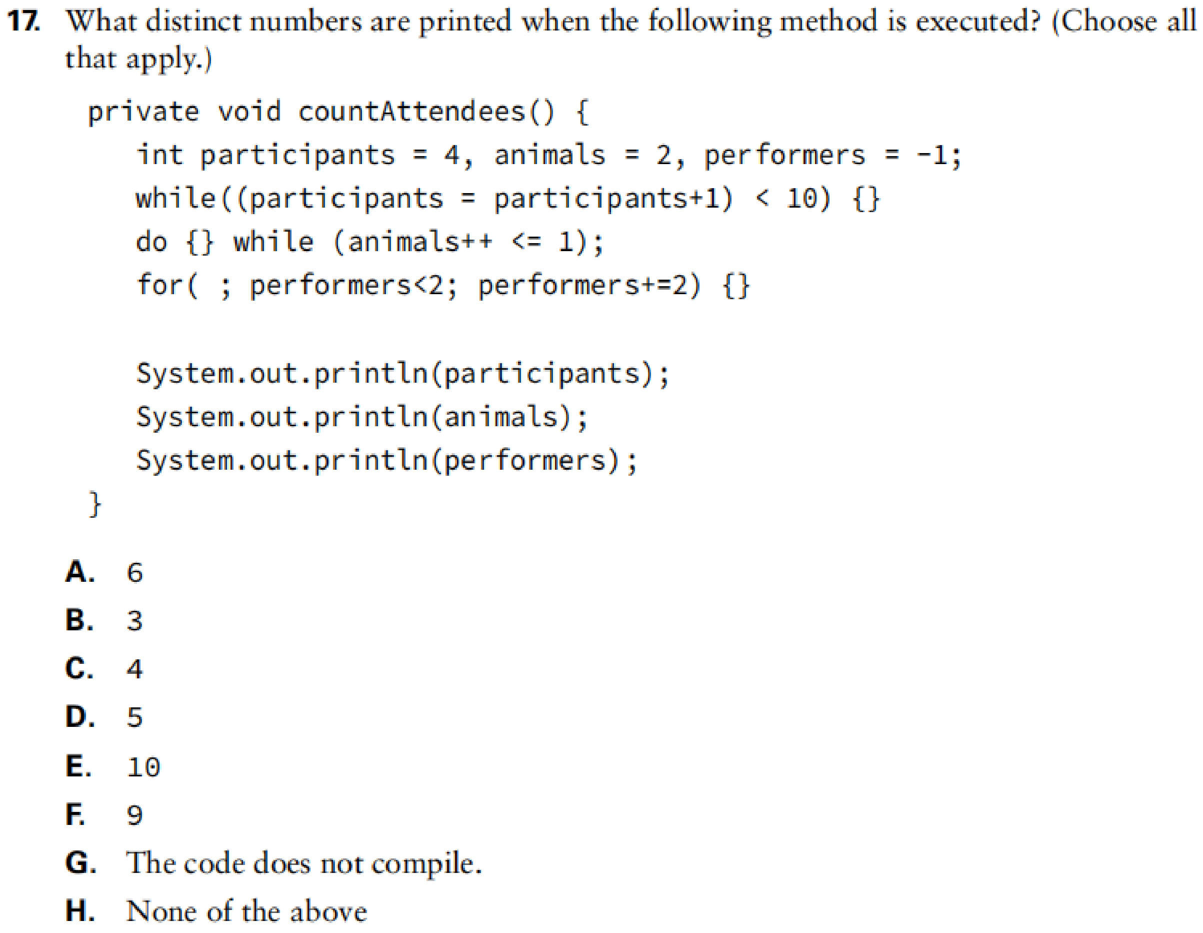
```
final int r = wolf.length;
for(int w = r-1; r>-1; w = r-1)
   System.out.print(wolf[w]);
```

F.

```
for(int i=wolf.length; i>0; --i)
   System.out.print(wolf[i]);
```

G. None of the above

A si lo inverte tiene el detalle de que se ve como un bucle infinito pero no lo es
B si lo invierte
C arroja error de out of bounds
D tambien invierte bien los elementos
E es un loop infinito
F da un error
Entonces la respuesta correcta es A, B, D



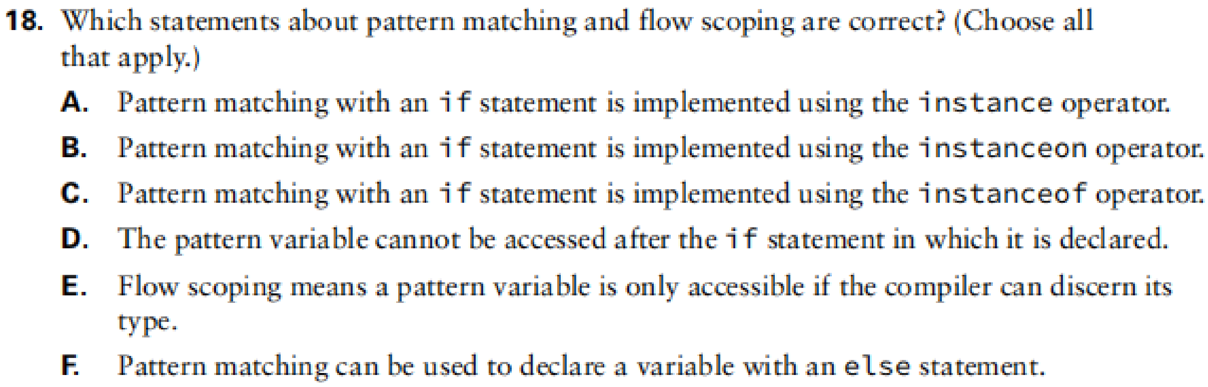
17. What distinct numbers are printed when the following method is executed? (Choose all that apply.)

```
private void countAttendees() {
   int participants = 4, animals = 2, performers = -1;
   while((participants = participants+1) < 10) {}
   do {} while (animals++ <= 1);
   for( ; performers<2; performers+=2) {}

   System.out.println(participants);
   System.out.println(animals);
   System.out.println(performers);
}
```

- **A.** 6
- **B.** 3
- **C.** 4
- **D.** 5
- **E.** 10
- **F.** 9
- **G.** The code does not compile.
- **H.** None of the above

La respuesta es B y E



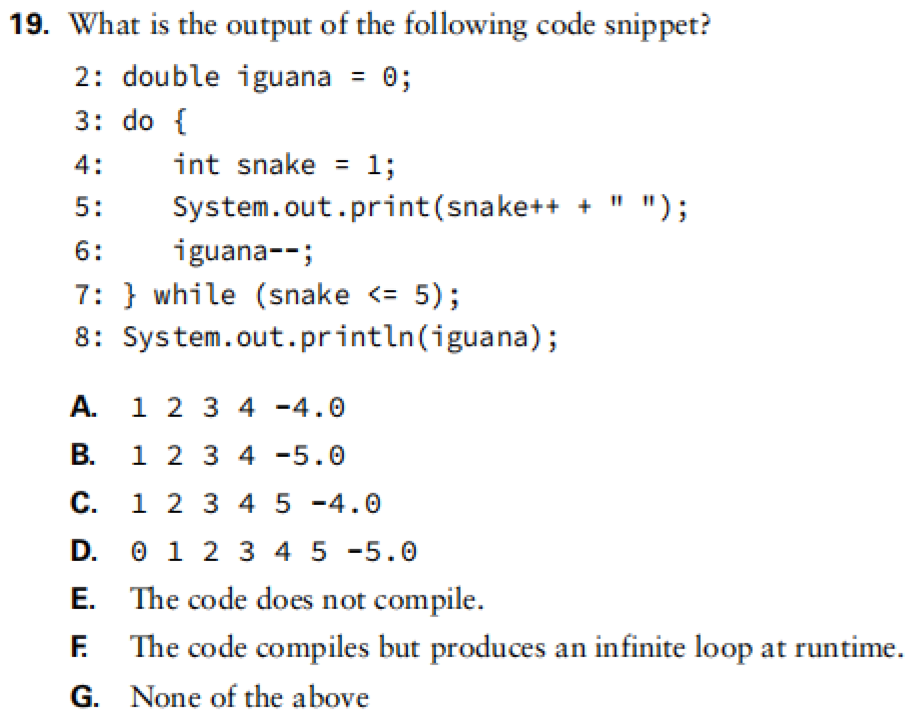
18. Which statements about pattern matching and flow scoping are correct? (Choose all that apply.)

- **A.** Pattern matching with an `if` statement is implemented using the `instance` operator.
- **B.** Pattern matching with an `if` statement is implemented using the `instanceon` operator.
- **C.** Pattern matching with an `if` statement is implemented using the `instanceof` operator.
- **D.** The pattern variable cannot be accessed after the `if` statement in which it is declared.
- **E.** Flow scoping means a pattern variable is only accessible if the compiler can discern its type.
- **F.** Pattern matching can be used to declare a variable with an `else` statement.

La respuesta es C, D E

La D tambien es incorrecta ya que la variable sigue al alcance despues del if statement

La respuesta correcta es C, e



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

```
double iguana = 0;
do {
   int snake = 1;
   System.out.print(snake++ + " ");
   iguana--;
} while (snake <= 5);
System.out.println(iguana);
```

A. `1 2 3 4 -4.0`

B. `1 2 3 4 -5.0`

C. `1 2 3 4 5 -4.0`

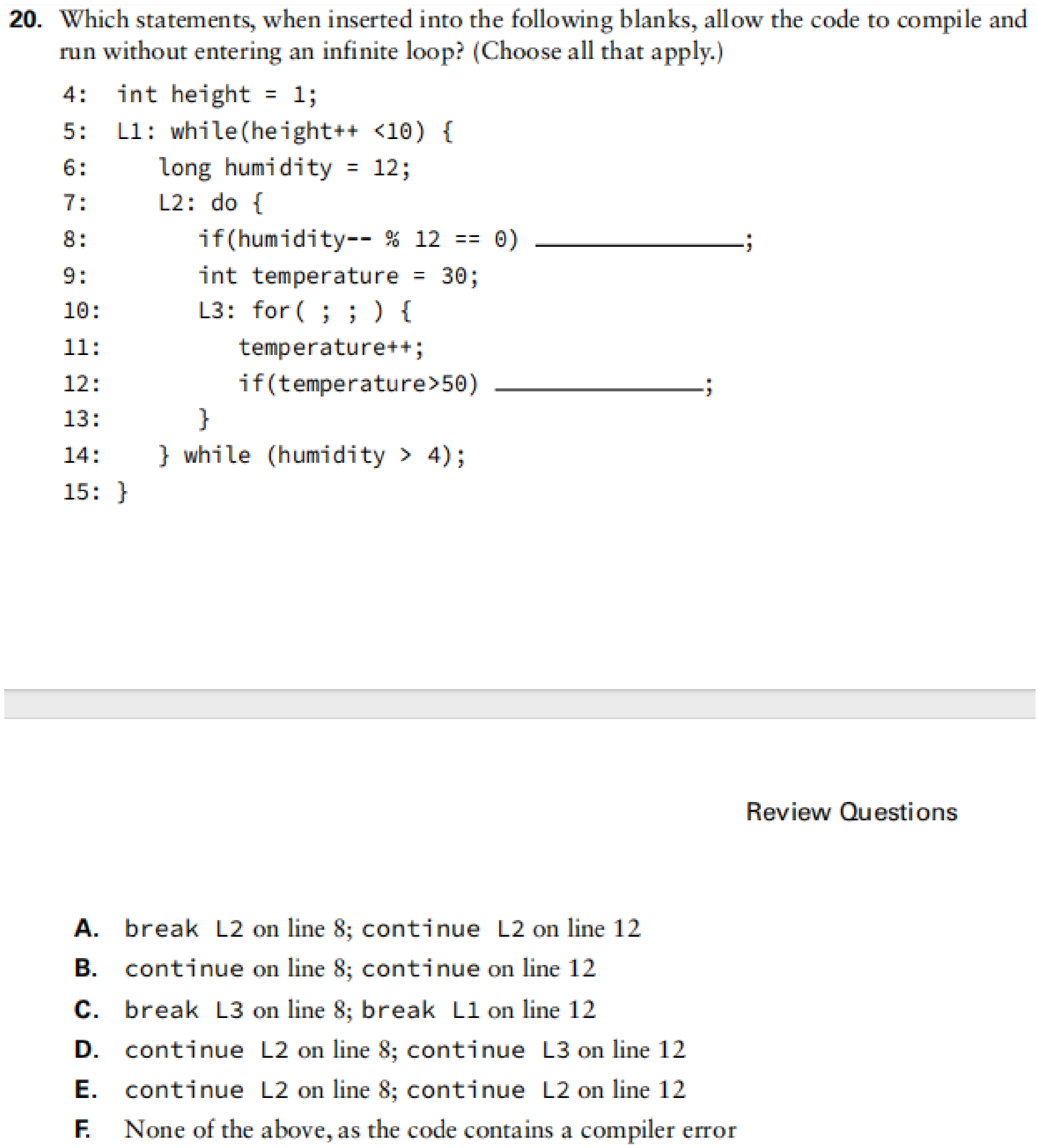
D. `0 1 2 3 4 5 -5.0`

E. The code does not compile.

F. The code compiles but produces an infinite loop at runtime.

G. None of the above

La respuesta es la E ya que El codigo no compila por que snake esta definido en el bloque de do y no tiene acceso en el while esto lo vimos en clase



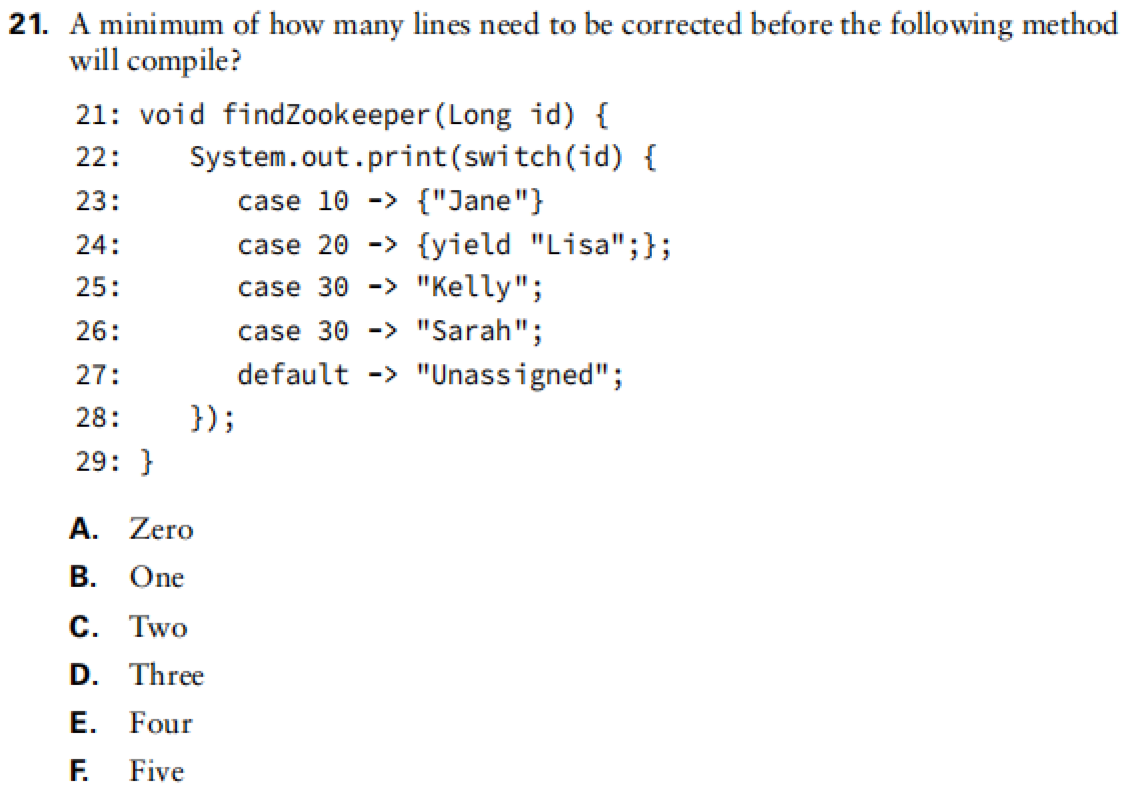
20. Which statements, when inserted into the following blanks, allow the code to compile and run without entering an infinite loop? (Choose all that apply.)

```
4:  int height = 1;
5:  L1: while(height++ <10) {
6:     long humidity = 12;
7:     L2: do {
8:        if(humidity-- % 12 == 0) ________________;
9:        int temperature = 30;
10:       L3: for( ; ; ) {
11:          temperature++;
12:          if(temperature>50) ________________;
13:       }
14:    } while (humidity > 4);
15: }
```

Review Questions

- **A.** `break L2` on line 8; `continue L2` on line 12
- **B.** `continue` on line 8; `continue` on line 12
- **C.** `break L3` on line 8; `break L1` on line 12
- **D.** `continue L2` on line 8; `continue L3` on line 12
- **E.** `continue L2` on line 8; `continue L2` on line 12
- **F.** None of the above, as the code contains a compiler error

A si compila y no da un loop infinito
B si compila y SI da un loop infinito
C no compila
D Compila pero da loop infinito
E Compila y no da loop infinito
G mo puede ser
La respuesta es A, E



21. A minimum of how many lines need to be corrected before the following method will compile?

```
21: void findZookeeper(Long id) {
22:    System.out.print(switch(id) {
23:       case 10 -> {"Jane"}
24:       case 20 -> {yield "Lisa";};
25:       case 30 -> "Kelly";
26:       case 30 -> "Sarah";
27:       default -> "Unassigned";
28:    });
29: }
```

A. Zero

B. One

C. Two

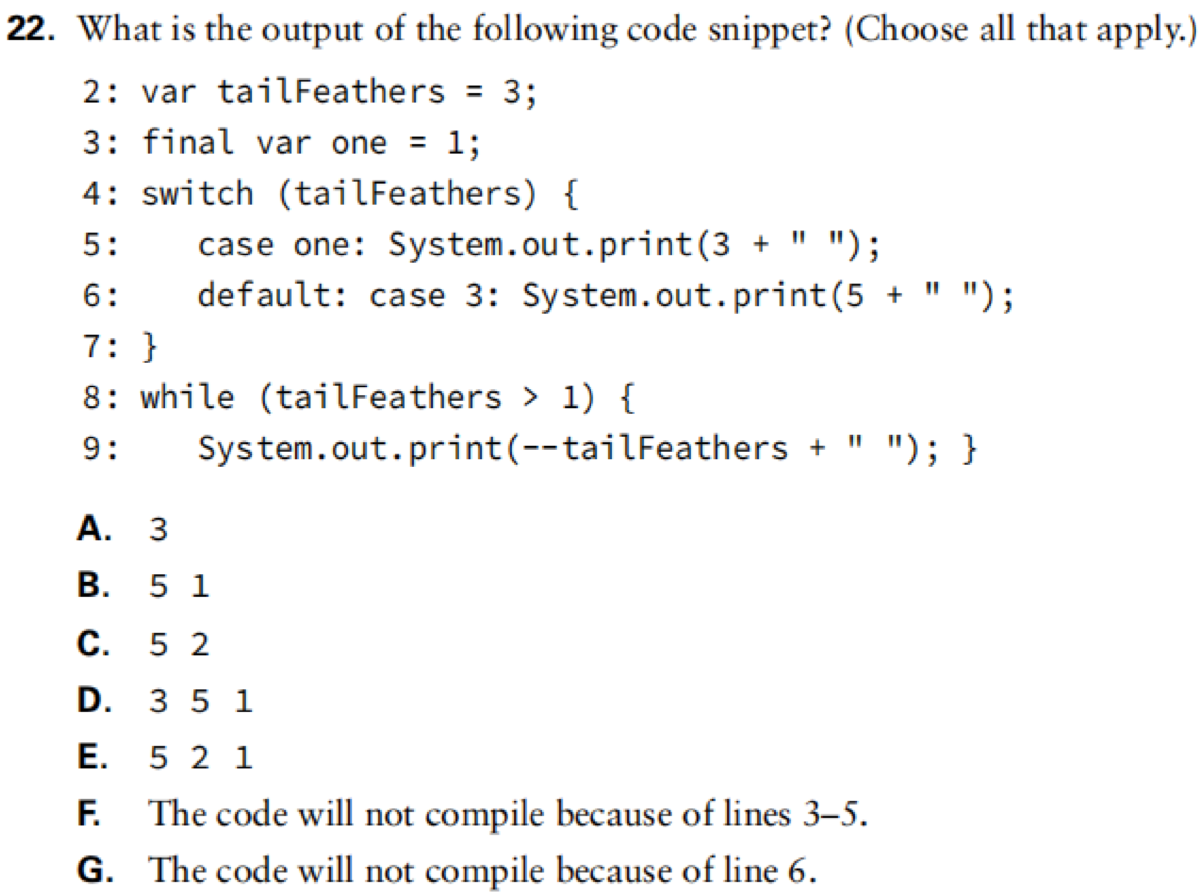
D. Three

E. Four

F. Five

La respuesta es D

La respuesta correcta es E Long no es permitido en switch, corregir linea 23 “Jane”; corregir line 24 “Lisa”; corregir linea 26 case 40



22. What is the output of the following code snippet? (Choose all that apply.)

```
2: var tailFeathers = 3;
3: final var one = 1;
4: switch (tailFeathers) {
5:    case one: System.out.print(3 + " ");
6:    default: case 3: System.out.print(5 + " ");
7: }
8: while (tailFeathers > 1) {
9:    System.out.print(--tailFeathers + " "); }
```

A. 3

B. 5 1

C. 5 2

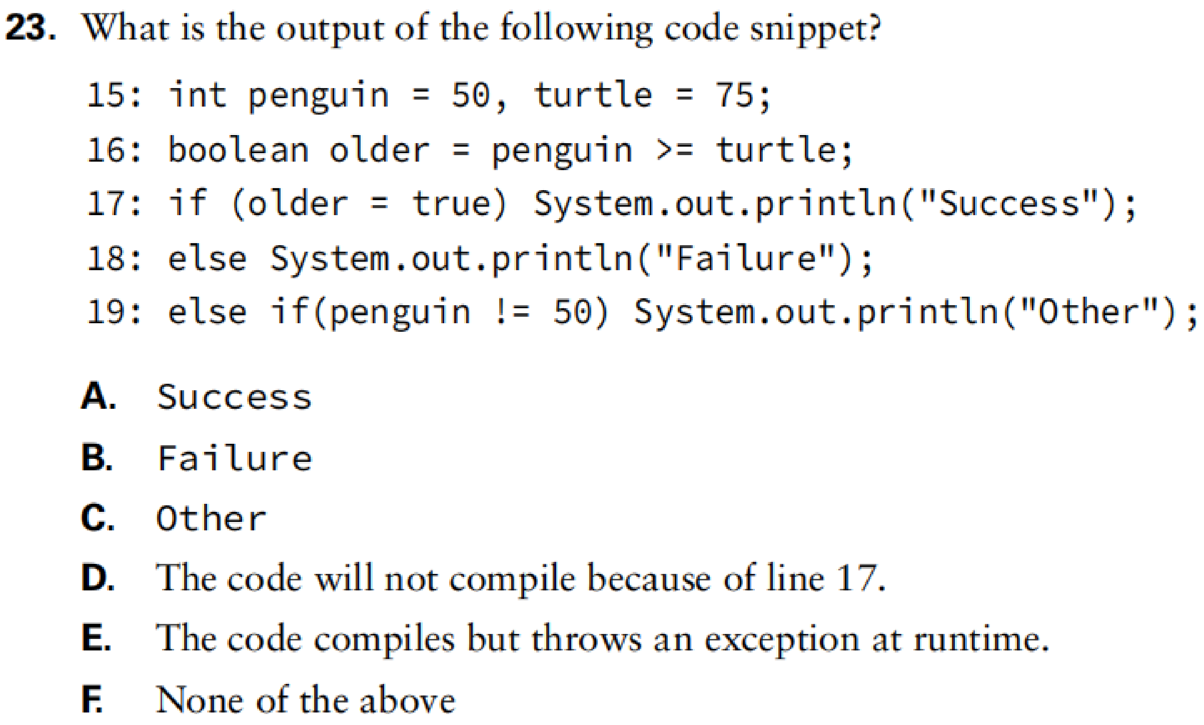
D. 3 5 1

E. 5 2 1

F. The code will not compile because of lines 3–5.

G. The code will not compile because of line 6.

Este codigo compila esta bien entra en en el default case porque talFeathers tiene 3 imprime 5 despues entra al while cumple entonces 3-1 es 2 y lo imprime otra vez el while le resta y queda 1 lo imprime y ya cumple la E



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

```
15: int penguin = 50, turtle = 75;
16: boolean older = penguin >= turtle;
17: if (older = true) System.out.println("Success");
18: else System.out.println("Failure");
19: else if(penguin != 50) System.out.println("Other");
```

A. `Success`

B. `Failure`

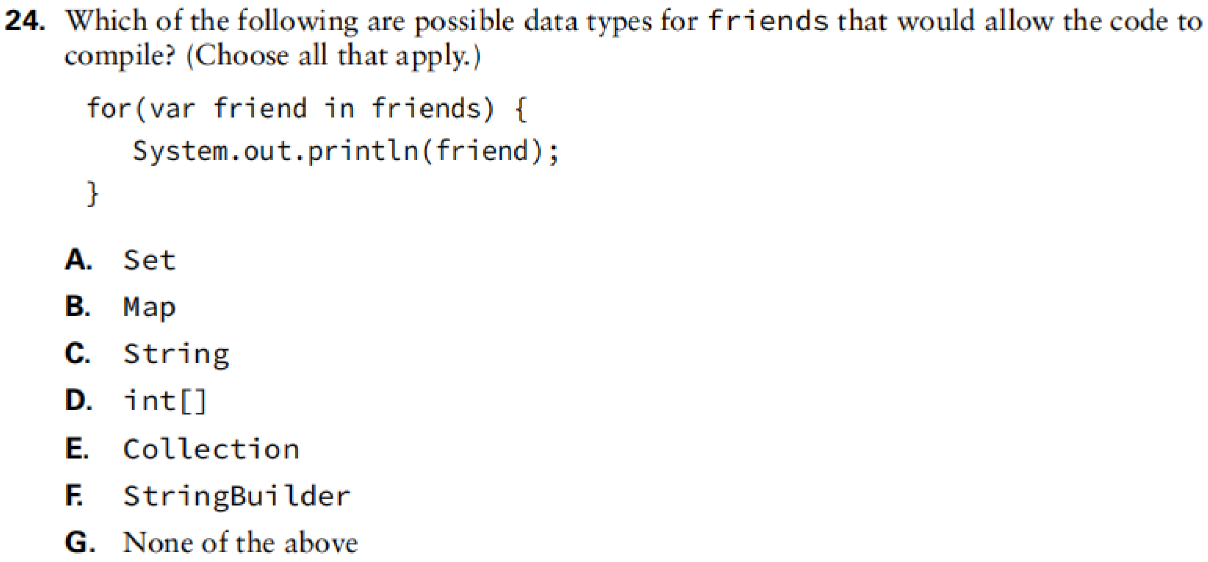
C. `Other`

D. The code will not compile because of line 17.

E. The code compiles but throws an exception at runtime.

F. None of the above

La que elegi es E pero la respuesta correcta es la F ya que esta mal estructurado el if tendríamos que cambiar la linea 19 y ponerla encima de la 18



24. Which of the following are possible data types for `friends` that would allow the code to compile? (Choose all that apply.)

```
for(var friend in friends) {
   System.out.println(friend);
}
```

A. `Set`

B. `Map`

C. `String`

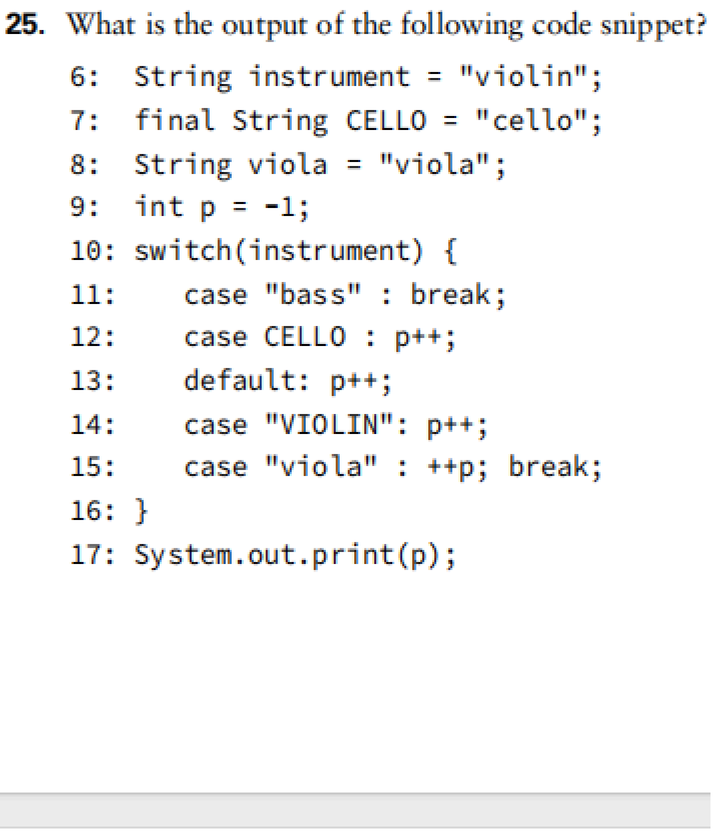
D. `int[]`

E. `Collection`

F. `StringBuilder`

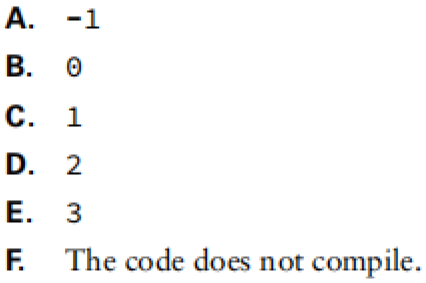
G. None of the above

Este debe ser un loop for each por la estructura pero ya que en vez de : tiene in es una sintaxis invalida entonces seria G



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

```
String instrument = "violin";
final String CELLO = "cello";
String viola = "viola";
int p = -1;
switch(instrument) {
   case "bass" : break;
   case CELLO : p++;
   default: p++;
   case "VIOLIN": p++;
   case "viola" : ++p; break;
}
System.out.print(p);
```



A. -1

B. 0

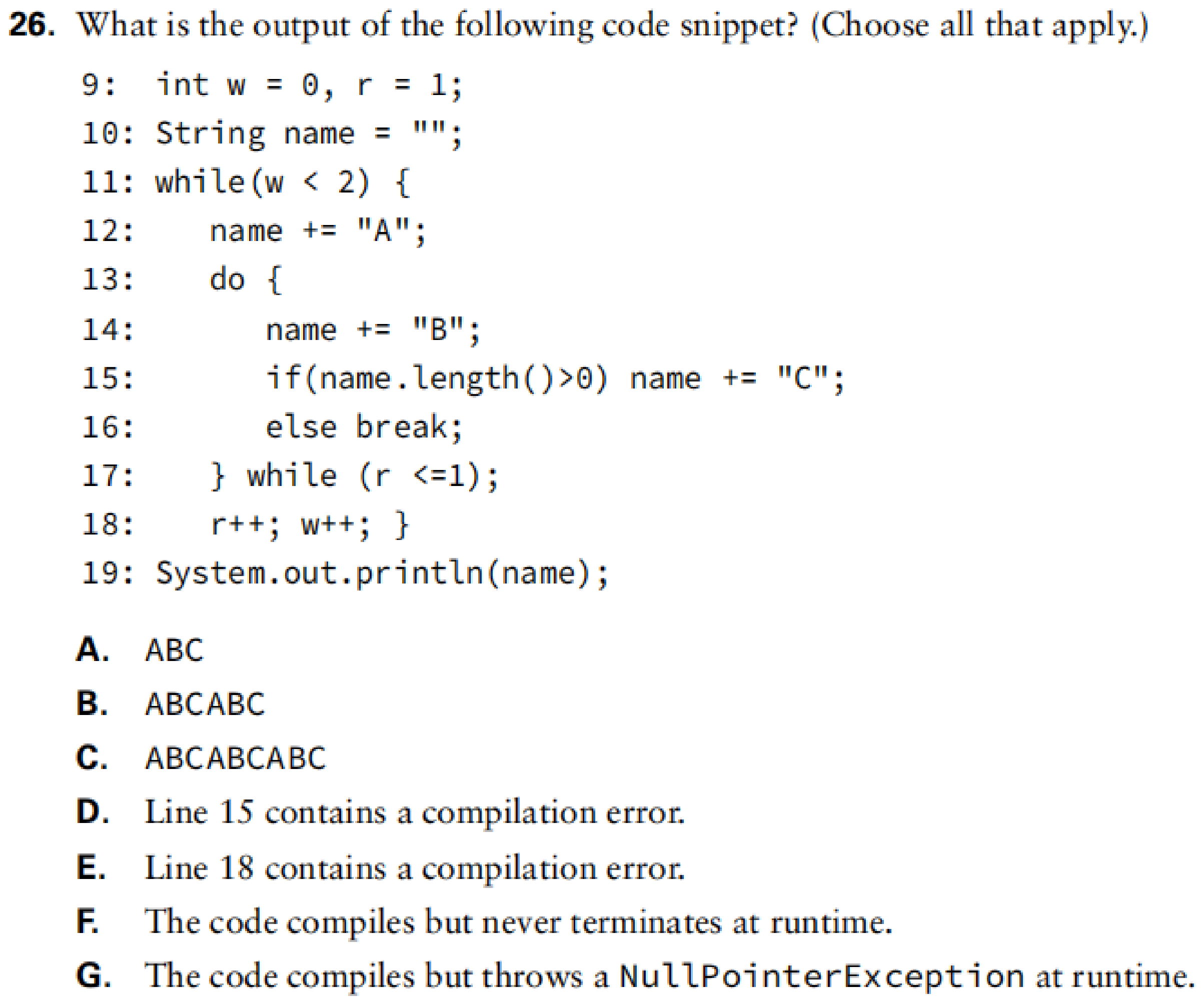
C. 1

D. 2

E. 3

F. The code does not compile.

El valor final de p es 2 después de los tres incrementos: uno en "VIOLIN", otro en "viola", y el incremento de p por el default.
La respuesta es D



26. What is the output of the following code snippet? (Choose all that apply.)

```
9:  int w = 0, r = 1;
10: String name = "";
11: while(w < 2) {
12:    name += "A";
13:    do {
14:       name += "B";
15:       if(name.length()>0) name += "C";
16:       else break;
17:    } while (r <=1);
18:    r++; w++; }
19: System.out.println(name);
```

A. ABC

B. ABCABC

C. ABCABCABC

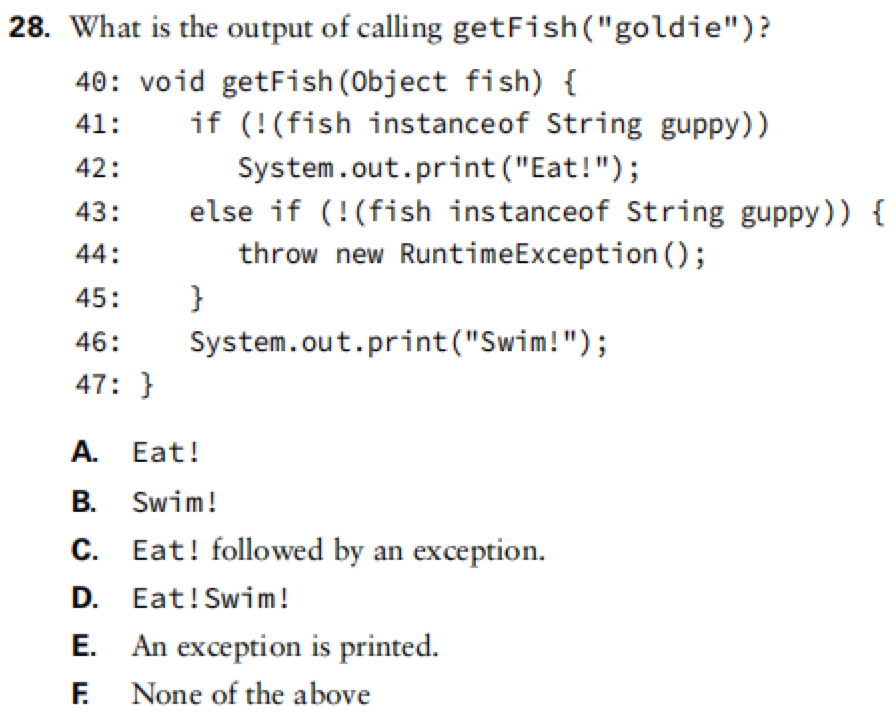
D. Line 15 contains a compilation error.

E. Line 18 contains a compilation error.

F. The code compiles but never terminates at runtime.

G. The code compiles but throws a `NullPointerException` at runtime.

F ya que el codigo tiene un bucle infinito en do while



28. What is the output of calling `getFish("goldie")`?

```
40: void getFish(Object fish) {
41:    if (!(fish instanceof String guppy))
42:       System.out.print("Eat!");
43:    else if (!(fish instanceof String guppy)) {
44:       throw new RuntimeException();
45:    }
46:    System.out.print("Swim!");
47: }
```

A. `Eat!`

B. `Swim!`

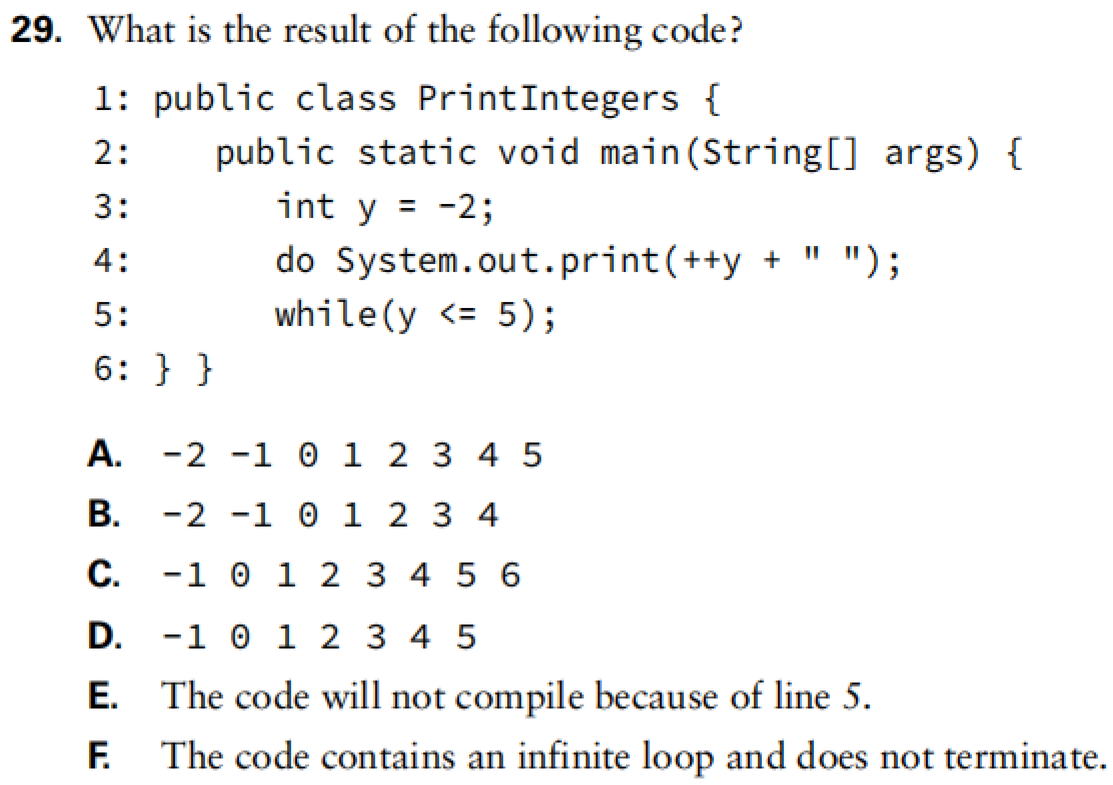
C. `Eat!` followed by an exception.

D. `Eat!Swim!`

E. An exception is printed.

F. None of the above

F poniéndolo en el IDE marca un error con guppy de la linea 41



29. What is the result of the following code?

```
1: public class PrintIntegers {
2:    public static void main(String[] args) {
3:       int y = -2;
4:       do System.out.print(++y + " ");
5:       while(y <= 5);
6: } }
```

A. `-2 -1 0 1 2 3 4 5`

B. `-2 -1 0 1 2 3 4`

C. `-1 0 1 2 3 4 5 6`

D. `-1 0 1 2 3 4 5`

E. The code will not compile because of line 5.

F. The code contains an infinite loop and does not terminate.

La respuesta es la C probandolo en IDE