1. (1 point) Which of the following correctly assigns animal to both variables?

1 S t ri n g ca t = " animal " , dog = " animal " ;

2 S t ri n g ca t = " animal " ; dog = " animal " ;

3 S t ri n g cat , dog = " animal " ;

4 S t ri n g cat , S t ri n g dog = " animal " ;

A. 1

B. 1, 2

C. 1, 3

D. All 4

2. (1 point) Which two primitives have wrapper classes that are not merely the name of the primitive with an uppercase letter?

A. byte and char

B. byte and int

C. char and int

D. None of the above

3. (1 point) Which of the following is true about String instance variables? A. They can be set to null.

B. They can never be set from outside the class they are defined in. C. They can only be set in the constructor.

D. They can only be set once per run of the program.

4. (1 point) Which statement is true about primitives?

A. Primitive types begin with a lowercase letter.

B. Primitive types can be set to null.

C. String is a primitive.

D. You can create your own primitive types.

5. (1 point) How do you force garbage collection to occur at a certain point? A. Call System.forceGc()

B. Call System.Gc()

C. Call System.requireeGc()

D. None of the above

6. (1 point) What is the output of the following code snippet?

1 i n t x = 10 , y = 5 ;

2 boolean w = t rue , z = f a l s e ;

3 x = w ? y++ : y−−;

4 w = ! z ;

5 System . out . p r i n t ( ( x+y )+" "+(w ? 5 : 10 ) ) ;

A. The code does not compile

B. 10 10

C. 11 5

D. 12 5

7. (1 point) What is the output of the following application?

1 package bob ;

2 p u bli c c l a s s AreYouBob {

3 p u bli c s t a t i c void main ( S t ri n g [ ] unused ) {

4 S t ri n g bob = new S t ri n g (" bob " ) ;

5 S t ri n g notBob = bob ;

6 System . out . p r i n t ( ( bob==notBob )+" "+(bob . e q u al s ( notBob ) ) ) ;

7 }

8 }

A. true true

B. true false

C. false true

D. false false

8. (1 point) What is the value of 12 + 6 \* 3 % (1 + 1) in Java? A. 0

B. 12

C. 14

D. None of the above

9. (1 point) What is the output of the following application?

|  | p = true | p = false |
| --- | --- | --- |
| q = true q = false | false | true |

A. false and true

B. false and false

C. true and true

Page 2

D. true and false

10. (1 point) How many times does the following code print true?

1 p u bli c c l a s s C o n d i t i o n a l l y L o g i c a l {

2 p u bli c s t a t i c void main ( S t ri n g . . . data ) {

3 i f ( data . leng th >=1

4 && ( data [ 0 ] . e q u al s (" sound " ) | | data [ 0 ] . e q u al s (" l o g i c " ) )

5 && data . leng th <2) {

6 System . out . p r i n t ( data [ 0 ] ) ;

7 }

8 }

9 }

A. Nothing is printed

B. sound is printed

C. The application throws an exception at runtime

D. logic is printed

11. (1 point) Which lines can be removed together without stopping the code from compiling and while printing the same output?

1 p u bli c c l a s s FirstName {

2 p u bli c s t a t i c void main ( S t ri n g . . . names ) {

3 System . out . p r i n t l n ( names [ 0 ] ) ;

4 }

5 }

A. FirstName

B. Wolfie

C. The code throws an ArrayIndexOutOfBoundsException

D. The code throws a NullPointerException

12. (1 point) What is the output of the following when run as java Count 1 2?

1 p u bli c c l a s s Count {

2 p u bli c s t a t i c void main ( S t ri n g t a r g e t [ ] ) {

3 System . out . p r i n t l n ( t a r g e t . l e n g t h ) ;

4 }

5 }

A. 0

B. 1

C. 2

D. The code does not compile

Page 3

13. (1 point) What is the output of the following when run as java unix.EchoFirst seed flower?

1 package unix ;

2 import ja va . u t i l . ∗ ;

3 p u bli c c l a s s E c hoFi r s t {

4 p u bli c s t a t i c void main ( S t ri n g [ ] a rg s ) {

5 S t ri n g one = a rg s [ 0 ] ;

6 Arrays . s o r t ( a rg s ) ;

7 i n t r e s u l t = Arrays . bi na r y S ea r c h ( a rg s , one ) ; 8 System . out . p r i n t l n ( r e s u l t ) ;

9 }

10 }

A. 0

B. 1

C. The code does not compile.

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

14. (1 point) Which of these four array declarations produces a different array than the others?

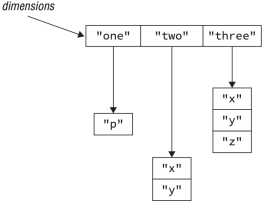
A. int[][] nums = new int[2][1];

B. int[] nums[] = new int[2][1];

C. int[] nums[] = new int[][] { { 0 }, { 0 } };

D. int[] nums[] = new int[][] { { 0, 0 } };

Page 4

15. (1 point) How do you access the array element with the value of "z"? 

A. dimensions["three"][2]

B. dimensions["three"][3]

C. dimensions[2][2]

D. dimensions[3][3]

16. (1 point) What is the result of the following?

1 i n t count = 1 0;

2 Li s t <Cha rac te r> c ha r s = new A r rayLi s t <>() ; 3 do {

4 c ha r s . add ( ’ a ’ ) ;

5 f o r ( Cha rac te r x : c ha r s ) count −=1; 6 } w hil e ( count > 0 ) ;

7 System . out . p r i n t l n ( c ha r s . s i z e ( ) ) ;

A. 3

B. 4

C. The code does not compile

D. None of the above

17. (1 point) What is the result of the following?

1 i n t k = 0 ;

2 f o r ( i n t i = 1 0; i > 0 ; i −−) {

3 w hil e ( i > 3 ) i −= 3 ;

4 k += 1 ;

5 }

6 System . out . p r i n t l n ( k ) ;

Page 5

A. 1

B. 2

C. 3

D. 4

18. (1 point) Which of the following is equivalent to this code snippet given an array of String objects?

1 f o r ( i n t i=fun . leng th −1; i >=0; i −−)

2 System . out . p r i n t l n ( fun [ i ] ) ;

A. for (String f = fun) System.out.println(f);

B. for (String f : fun) System.out.println(f);

C. for (String f fun) System.out.println(it);

D. None of the above

19. (1 point) What does the following code output?

1 p u bli c s t a t i c void main ( S t ri n g [ ] a rg s ) {

2 Li s t <S t ri ng > b o t t l e s = Arrays . a s L i s t (" g l a s s " , " p l a s t i c " ) ; 3 f o r ( i n t type = 0 ; type < b o t t l e s . s i z e ( ) ; )

4 System . out . p r i n t ( b o t t l e s . g e t ( type ) + " ," ) ; 5 b reak ;

6 System . out . p r i n t (" end " ) ;

7 }

A. glass, end

B. glass,plastic,end

C. The code does not compile

D. None of the above

20. (1 point) What is the result of the following?

1 S t ri n g [ ] nycTourLoops = new S t ri n g [ ] { "Downtown" , "Uptown" , " Brooklyn " } ;

2 S t ri n g [ ] time s = new S t ri n g [ ] { "Day" , " Night " } ; 3 f o r ( i n t i = 0 , j = 0 ; i < nycTourLoops . l e ng t h && j < time s . l e ng t h ; i ++; j++)

4 {

5 System . out . p r i n t ( nycTourLoops [ i ] + " " + time s [ j ] + "−") ; 6 }

A. Downtown Day

B. Downtown Day-Uptown Night

C. The code does not compile

Page 6

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

21. (1 point) Given the following two classes, each in a different package, which line inserted below allows the second class to compile?

1 package c l o t h e s ;

2 p u bli c c l a s s S to r e {

3 p u bli c s t a t i c S t ri n g g e t Cl o t h e s ( ) { r e t u r n " d r e s s " ; } 4 }

5

6 package wardrobe ;

7 // INSERT CODE HERE

8 p u bli c c l a s s Clo s e t {

9 p u bli c void borrow ( ) {

10 System . out . p r i n t (" Borrowing c l o t h e s : "+g e t Cl o t h e s ( ) ) ; 11 }

12 }

A. static import clothes.Store.getClothes;

B. import clothes.Store.\*;

C. import static clothes.Store.getClothes;

D. import static clothes.Store;

22. (1 point) What access modifier is used to mark class members package-private? A. private

B. default

C. protected

D. None of the above

23. (1 point) How many lines of the following program contain compilation errors?

1 package sky ;

2 p u bli c c l a s s S t a r s {

3 p r i v a t e i n t inThe = 4 ;

4 p u bli c void S t a r s ( ) {

5 supe r ( ) ;

6 }

7 p u bli c S t a r s ( i n t inThe ) {

8 t h i s . inThe = t h i s . inThe ;

9 }

10 p u bli c s t a t i c void main ( S t ri n g [ ] e n d l e s s ) {

11 System . out . p r i n t ( new sky . S t a r s ( 2 ) . inThe ) ; 12 }

13 }

Page 7

A. None

B. 1

C. 2

D. 3

24. (1 point) Which of the following statements is true?

A. An instance method is allowed to reference a static variable.

B. A static method is allowed to reference an instance variable.

C. A static initialization block is allowed to reference an instance variable. D. A final static variable may be set in a constructor.

25. (1 point) Given the following method declaration, which line can be inserted to make the code compile?

1 p u bli c s h o r t c a l c u l a t e D i s t a n c e ( double la t1 , double lon1 , 2 double la t2 , double lo n2 ) {

3 // INSERT CODE HERE

4 }

A. return new Integer(3);

B. return new Byte((byte)6);

C. return 5L;

D. return new Short(4).longValue();

26. (1 point) Fill in the blanks: A class that defines an instance variable with the same name as a variable in the parent class is referred to as a \_\_\_ variable, while a class that defines a static method with the same signature as a static method in a parent class is referred to as \_\_\_ a method.

A. hiding, overriding

B. overriding, hiding

C. hiding, hiding

D. replacing, overriding

27. (1 point) Which statement about the following class is correct?

1 package shape s ;

2 a b s t r a c t c l a s s Pa rall elog ram {

3 p r i v a t e i n t g e tE q ual Si d e s ( ) { r e t u r n 0; }

4 }

5 a b s t r a c t c l a s s R ec ta ngl e e x te n d s Pa rall elog ram { 6 p u bli c s t a t i c i n t g e tE q ual Si d e s ( ) { r e t u r n 2; } // x1 7 }

8 p u bli c f i n a l c l a s s Square e x t e nd s Re c tangle {

Page 8

9 p u bli c i n t g e tE q ual Si d e s ( ) { r e t u r n 4; } // x2 10 p u bli c s t a t i c void main ( S t ri n g [ ] c o r n e r s ) {

11 f i n a l Square myFigure = new Square ( ) ; // x3 12 System . out . p r i n t ( myFigure . g e tE q ual Si d e s ( ) ) ; 13 }

14 }

A. The code does not compile due to line x1.

B. The code does not compile due to line x2.

C. The code does not compile due to line x3.

D. The code compiles and runs without issue.

28. (1 point) What is the output of the following application?

1 package f l y i n g ;

2 c l a s s R o t o r c r af t {

3 p r o t e c t e d f i n a l i n t h ei g h t = 5 ;

4 a b s t r a c t i n t f l y ( ) ;

5 }

6 p u bli c c l a s s H e l i c o p t e r e x te n d s R o t o r c r af t {

7 p r i v a t e i n t h eig h t = 1 0;

8 p r o t e c t e d i n t f l y ( ) {

9 r e t u r n supe r . h ei g h t ;

10 }

11 p u bli c s t a t i c void main ( S t ri n g [ ] unused ) {

12 H e l i c o p t e r h = ( H e l i c o p t e r ) new R o t o r c r af t ( ) ; 13 System . out . p r i n t ( h . f l y ( ) ) ;

14 }

15 }

A. 5

B. 10

C. The code does not compille

D. The code compiles but produces a ClassCastException at runtime.

29. (1 point) Fill in the blanks: A class may be assigned to a(n) \_\_\_ reference variable automatically but requires an explicit cast when assigned to a(n) \_\_\_ reference vari able.

A. subclass, outer class

B. superclass, subclass

C. subclass, superclass

D. abstract class, concrete class

Page 9

30. (1 point) Fill in the blank: A(n) \_\_\_ is the first non-abstract subclass that is required to implement all of the inherited abstract methods.

A. abstract class

B. abstraction

C. concrete class

D. interface

31. (1 point) What is the output of the following application?

1 package pond ;

2 a b s t r a c t c l a s s Duck {

3 p r o t e c t e d i n t count ;

4 p u bli c a b s t r a c t i n t g e tD u c ki e s ( ) ;

5 }

6 p u bli c c l a s s Duc kling s e x t e n d s Duck {

7 p r i v a t e i n t age ;

8 p u bli c Duc kling s ( i n t age ) { t h i s . age = age ; } 9 p u bli c i n t g e tD u c ki e s ( ) { r e t u r n t h i s . age / count ; } 10 p u bli c s t a t i c void main ( S t ri n g [ ] pond Info ) { 11 Duck i tQuack s = new Duc kling s ( 5 ) ;

12 System . out . p r i n t ( i tQuack s . g e tD u c ki e s ( ) ) ; 13 }

14 }

A. 0

B. 5

C. The code does not compile

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

32. (1 point) Given a try statement, if both the catch block and the finally block each throw an exception, what does the caller see?

A. The exception from the catch block

B. The exception from the finally block

C. Both the exception from the catch block and the exception from the finally block

D. None of the above

33. (1 point) What is the output of the following application?

1 package zoo ;

2 c l a s s BigMiaoMiao {

3 void roa r ( i n t l e v e l ) throw RuntimeException { // m1 4 i f ( l e v e l <3) throw new Ill egalA rg um e n tE x c e p tio n (" Incomple te " ) ;

Page 10

5 System . out . p r i n t (" Roar ! " ) ;

6 }

7 }

8 p u bli c c l a s s Lion e x t e nd s zoo . BigMiaoMiao {

9 p u bli c void roa r ( ) { // m2

10 System . out . p r i n t (" Roar ! ! ! " ) ;

11 }

12 p u bli c s t a t i c void main ( S t ri n g [ ] cubs ) {

13 f i n a l zoo . BigMiaoMiao k i t t y = new Lion ( ) ; // m3 14 k i t t y . roa r ( 2 ) ;

15 }

16 }

A. The code does not compile because of line m1.

B. The code does not compile because of line m2.

C. The code does not compile because of line m3.

D. The code compiles but a stack trace is printed at runtime.

34. (1 point) Given the following code snippet, which specific exception will be thrown?

1 f i n a l Objec t e x c e p ti o n = new Excep tion ( ) ;

2 f i n a l Excep tion data = ( RuntimeException ) e x c e p ti o n ; 3 System . out . p r i n t ( data ) ;

A. ClassCastException

B. RuntimeException

C. NullPointerException

D. None of the above

35. (1 point) Which of the following classes will handle all types in a catch block? A. Exception

B. Error

C. Throwable

D. RuntimeException

36. (1 point) What is the output of the following class?

1 package r o c k e t ;

2 p u bli c c l a s s Countdown {

3 p u bli c s t a t i c void main ( S t ri n g [ ] a rg s ) {

4 S t ri n g b u i l d e r = "54321";

5 b u i l d e r = b u i l d e r . s u b s t r i n g ( 4 ) ;

6 System . out . p r i n t l n ( b u i l d e r . charAt ( 2 ) ) ;

7 }

8 }

Page 11

A. 2

B. 3

C. 4

D. None of the above

37. (1 point) Which equivalent code can replace i -> i != 0 in the following line? Predicate<Integer> ip = i -> i != 0;

A. i -> { i != 0 }

B. i -> { i != 0; }

C. i -> { return i != 0 }

D. i -> { return i != 0; }

38. (1 point) What is the output of the following?

1 %LocalDate xmas = LocalDate . of (2016 , 12 , 25 ) ; 2 %xmas . plusDays (−1) ;

3 %System . out . p r i n t l n ( xmas . getDayOfMonth ( ) ) ;

4 LocalDate mayonnaise = LocalDate . of (2016 , 12 , 25 ) ; 5 mayonnaise . plusDays (−1) ;

6 System . out . p r i n t l n ( mayonnaise . getDayOfMonth ( ) ) ;

A. 24

B. 25

C. 26

D. None of the above

39. (1 point) What is the output of the following?

1 p u bli c c l a s s Legos {

2 p u bli c s t a t i c void main ( S t ri n g [ ] a rg s ) { 3 S t ri n gB uil d e r sb = new S t ri n gB uil d e r ( ) ; 4 sb . append (" red " ) ;

5 sb . dele teCha rA t ( 0 ) ;

6 sb . d e l e t e ( 1 , 2 ) ;

7 System . out . p r i n t l n ( sb ) ;

8 }

9 }

A. e

B. d

C. ed

D. None of the above

40. (1 point) What does the following output?

Page 12

1 P r e di c a t e c l e a r = c −> c . e q u al s (" c l e a r " ) ;

2 System . out . p r i n t l n ( c l e a r . t e s t (" pink " ) ) ;

A. true

B. false

C. The code does not compile

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

41. (1 point) What is printed by the following code snippet?

1 i n t f i s h = 1 + 2 ∗ 5>=2 ? 4 : 2 ;

2 i n t mammals = 3 < 3 ? 1 : 5>=5 ? 9 : 7 ;

3 System . out . p r i n t ( f i s h+mammals+"") ;

A. 49

B. 13

C. 18

D. 99

E. It does not compile

42. (1 point) Which of the following statements about objects, reference types, and casting are correct?

A. An object can be assigned to an inherited interface reference variable without an explicit cast.

B. The compiler can prevent all explicit casts that lead to an exception at runtime. C. Casting an object to a reference variable does not modify the object in memory.

D. An object can be assigned to a subclass reference variable without an explicit cast.

E. An object can be assigned to a superclass reference variable without an explicit cast.

F. An implicit cast of an object to one of its inherited types can sometimes lead to a ClassCastException at runtime.

43. (1 point) What is the output of the following when run as java EchoFirst seed flower plant?

1 package unix ;

2 import ja va . u t i l . ∗ ;

3 p u bli c c l a s s E c hoFi r s t {

4 p u bli c s t a t i c void main ( S t ri n g [ ] a rg s ) {

5 i n t r e s u l t = Arrays . bi na r y S ea r c h ( a rg s , a rg s [ 0 ] ) ; 6 System . out . p r i n t l n ( r e s u l t ) ;

7 }

8 }

Page 13

A. 0

B. 1

C. 2

D. The code does not compile.

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

F. The output is not guaranteed.

44. (1 point) How many objects are eligible for garbage collection at the end of the main() method?

1 package s t o r e ;

2 p u bli c c l a s s Shoes {

3 s t a t i c S t ri n g shoe1 = new S t ri n g (" sa n dal " ) ;

4 s t a t i c S t ri n g shoe2 = new S t ri n g (" f l i p f l o p " ) ; 5 p u bli c s t a t i c void shopping ( ) {

6 S t ri n g shoe3 = new S t ri n g (" c ro c " ) ;

7 shoe2 = shoe1 ;

8 shoe1 = shoe3 ;

9 }

10 p u bli c s t a t i c void main ( S t ri n g . . . a rg s ) {

11 shopping ( ) ;

12 }

13 }

A. 0

B. 1

C. 2

D. 3

E. The code does not compile

45. (1 point) Fill in the blanks: The \_\_\_ keyword is used in method declarations, the \_\_\_ keyword is used to guarantee a statement will execute even if an exception is thrown, and the \_\_\_ keyword is used to throw an exception to the surrounding process.

A. throw, finally, throws

B. throws, catch, throw

C. catch, finally, throw

D. finally, catch, throw

E. throws, finally, throw

46. (1 point) Which statements best describe the result of this code? Page 14

1 package nyc ;

2 p u bli c c l a s s Tou ri s tBu s {

3 p u bli c s t a t i c void main ( S t ri n g . . . a rg s ) {

4 S t ri n g [ ] nycTourLoops = new S t ri n g [ ] { "Downtown" , " Uptown" , "Brooklyn " } ;

5 S t ri n g [ ] time s = new S t ri n g [ ] { "Day" , " Night " } ; 6 f o r ( i n t i = 0 , j = 0 ; i < nycTourLoops . l e n g t h ; i ++, j ++)

7 System . out . p r i n t l n ( nycTourLoops [ i ] + " " + time s [ j ] ) ;

8 }

9 }

A. The println causes one line of output.

B. The println causes two lines of output.

C. The println causes three lines of output.

D. The code terminates successfully.

E. The code throws an exception at runtime.

47. (1 point) Fill in the blanks: Because of \_\_\_, it is possible to \_\_\_ a method, which allows Java to support \_\_\_.

A. abstract methods, override, inheritance

B. concrete methods, overload, inheritance

C. virtual methods, overload, interfaces

D. inheritance, abstract, polymorphism

E. virtual methods, override, polymorphism.

48. (1 point) What is the result of the following?

1 package c al e n d a r ;

2 p u bli c c l a s s Sea son s {

3 p u bli c s t a t i c void s e a s o n s ( S t ri n g . . . names ) { 4 i n t l = names [ 1 ] . l e n g t h ( ) ; // s1

5 System . out . p r i n t l n ( names [ l ] ) ; // s2

6 }

7 p u bli c s t a t i c void main ( S t ri n g [ ] a rg s ) {

8 s e a s o n s ("Summer" , " F al l " , "Winter " , " Sp ring " ) ; 9 }

10 }

A. Fall

B. Spring

C. The code does not compile

Page 15

D. The code throws an exception on line s1

E. The code throws an exception on line s2

49. (1 point) How many lines of the following application contain compilation errors?

1 package p e r c u s si o n ;

2 i n t e r f a c e MakesNoise {}

3 a b s t r a c t c l a s s In s t rumen t implements MakesNoise { 4 p u bli c In s t rumen t ( i n t b ea t s ) {}

5 p u bli c void pla y ( ) {}

6 }

7 p u bli c c l a s s Drum e x t e nd s In s t rumen t {

8 p u bli c void pla y ( i n t count ) {}

9 p u bli c void c o n c e r t ( ) {

10 supe r . pla y ( 5 ) ;

11 }

12 p u bli c s t a t i c void main ( S t ri n g [ ] b ea t s ) { 13 MakesNoise mn = new Drum ( ) ;

14 mn. c o n c e r t ( ) ;

15 }

16 }

A. None. The code compiles and runs without issue.

B. 1

C. 2

D. 3

E. 4

50. (1 point) How many lines of the following application contain compilation errors?

1 package f l y ;

2 p u bli c c l a s s H e l i c o p t e r {

3 p u bli c i n t a dj u s t P r o p e l l e r s ( i n t leng th , S t ri n g [ ] type ) { 4 l e n g t h++;

5 type [ 0 ] = "LONG" ;

6 r e t u r n l e n g t h ;

7 }

8 p u bli c s t a t i c void main ( S t ri n g [ ] climb ) {

9 f i n a l H e l i c o p t e r h = new H e l i c o p t e r ( ) ; 10 i n t l e n g t h = 5 ;

11 S t ri n g [ ] type = new S t ri n g [ 1 ] ;

12 l e n g t h = h . a dj u s t P r o p e l l e r s ( leng th , type ) ; 13 System . out . p r i n t ( l e n g t h +","+ type [ 0 ] ) ; 14 }

15 }

Page 16

A. 5,LONG

B. 6,LONG

C. 5,null

D. 6,null

E. The code does not compile

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

51. (1 point) How many lines of the following application do not compile?

1 package c a s t l e s ;

2 c l a s s OpenDoorException e x t e n d s Excep tion {}

3 c l a s s CableSnapException e x t e nd s OpenDoorException {} 4 p u bli c c l a s s Palace {

5 p u bli c void openDrawbridge ( ) throws Excep tion { 6 t r y {

7 throw new Excep tion (" Problem " ) ;

8 } ca tc h ( OpenDoorException e ) {

9 throw new OpenDoorException ( ) ;

10 } ca tc h ( CableSnapException ex ) {

11 t r y {

12 throw new OpenDoorException ( ) ; 13 } ca t c h ( Excep tion ex ) {

14 } f i n a l l y {

15 System . out . p r i n t l n (" Almost done " ) ; 16 }

17 } f i n a l l y {

18 throw new RuntimeException (" Unending problem " ) ; 19 }

20 }

21 p u bli c s t a t i c void main ( S t ri n g [ ] moat ) throws Ill egalA rg um e n tE x c e p tio n {

22 new Palace ( ) . openDrawbridge ( ) ;

23 }

24 }

A. None. The code compiles and produces a stack trace at runtime. B. 1

C. 2

D. 3

E. 4

F. 5

Page 17

52. (1 point) Choose the best answer: \_\_\_ and \_\_\_ are two properties that go hand in hand to improve class design by structuring a class with related attributes and actions while protecting the underlying data from access by other classes.

A. Optimization and platform independence

B. Platform independence and encapsulation

C. Platform independence and inheritance

D. Object orientation and encapsulation

E. Inheritance and polymorphism

53. (1 point) What is the output of the following?

1 s t r i n g bi k e1 = " speedy " ;

2 s t r i n g bi k e2 = new S t ri n g (" speedy " ) ;

3 boolean t e s t 1 = bi k e1 == bi k e2 ;

4 boolean t e s t 2 = bi k e1 . e q u al s ( bi k e2 ) ;

5 System . out . p r i n t l n ( t e s t 1 + " " + t e s t 2 ) ;

A. false false

B. false true

C. true false

D. true true

E. The code does not compile

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

54. (1 point) What is the output of the following when run as java EchoFirst seed flower plant?

1 package unix ;

2 import ja va . u t i l . ∗ ;

3 p u bli c c l a s s E c hoFi r s t {

4 p u bli c s t a t i c void main ( S t ri n g [ ] a rg s ) {

5 Arrays . s o r t ( a rg s ) ;

6 i n t r e s u l t = Arrays . bi na r y S ea r c h ( a rg s , a rg s [ 0 ] ) ; 7 System . out . p r i n t l n ( r e s u l t ) ;

8 }

9 }

A. 0

B. 1

C. 2

D. The code does not compile

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

Page 18

F. The output is not guaranteed

55. (1 point) Which are true statements? (Choose three.)

A. 5,LONG

B. Every do-while loop can be rewritten as a for-each loop.

C. Every for-each loop can be rewritten as a do-while loop.

D. Every for-each loop can be rewritten as a traditional for loop.

E. Every for-each loop can be rewritten as a while loop.

F. Every traditional for loop can be rewritten as a for-each loop.

G. Every while loop can be rewritten as a for-each loop.

56. (1 point) How many lines does this program print?

1 import ja va . time . ∗ ;

2 p u bli c c l a s s OnePlusOne {

3 p u bli c s t a t i c void main ( S t ri n g . . . nums ) {

4 LocalDate time = LocalDate . of ( 1 , 11 ) ;

5 w hil e ( time . getHour ( ) < 1 ) {

6 time . plu sHou r s ( 1 ) ;

7 System . out . p r i n t l n (" i n loo p " ) ;

8 }

9 }

10 }

A. None

B. 1

C. 2

D. This is an infinite loop

E. The code does not compile

57. (1 point) How many objects are eligible for garbage collection immediately before the end of the main() method?

1 p u bli c c l a s s Tennis {

2 p u bli c s t a t i c void main ( S t ri n g [ ] game ) {

3 S t ri n g [ ] b a l l s = new S t ri n g [ 1 ] ;

4 i n t [ ] s c o r e s = new i n t [ 1 ] ;

5 b a l l s = n u l l ;

6 s c o r e s = n u l l ;

7 }

8 }

A. None

B. 1

Page 19

C. 2

D. 3

E. 4

58. (1 point) What is the output of the following?

1 i n t count = 0 ;

2 LocalDate da te = LocalDate . of (2017 , Month .JANUARY, 1 ) ; 3 w hil e ( da te . getMonth ( ) != Month . APRIL)

4 da te = da te . minusMonths ( 1 ) ;

5 count++;

6 System . out . p r i n t l n ( count ) ;

A. 0

B. 1

C. 3

D. 9

E. This is an infinite loop

F. The code does not compile

59. (1 point) How many lines of the following class do not compile?

1 package a r c t i c ;

2 a b s t r a c t c l a s s Bear {

3 p r o t e c t e d i n t si n g ;

4 p r o t e c t e d a b s t r a c t i n t g run t ( ) ;

5 i n t si n g ( ) {

6 r e t u r n si n g ;

7 }

8 }

9 p u bli c c l a s s Pola rBea r e x t e nd s Bear {

10 i n t g run t ( ) {

11 si n g ( ) += 1 0;

12 r e t u r n supe r . g run t ( ) + 1 ;

13 r e t u r n 1 0;

14 }

15 }

A. None, the class compiles without issue.

B. 1

C. 2

D. 3

E. 4

Page 20

F. 5

60. (1 point) In which places is the default keyword permitted to be used? A. None

B. 1

C. 2

D. This is an infinite loop

E. The code does not compile

Access modifier in a class

F. Execution path in a switch statement

G. Method name

H. Modifier in an abstract interface method

I. Modifier in an interface method with a body

J. Variable name

Answers :

<https://docs.google.com/forms/d/e/1FAIpQLSc_EHj1bo0h1v-ZhgKZQ0NuC8yEIgxCK4_FpegnDXIsQVq7sQ/viewscore?viewscore=AE0zAgDHYXh9tRA2nISzNdOjQcd4zR0qwwANfzm9TWyQ_XCkWt0YZ799U9xXMo2SjQ>

Page 21