1. (1 point) What is the output if this class is run with java Indexing cars carts?

1 p u bli c c l a s s I n d e xi ng {

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

3 S t ri n gB uil d e r sb = new S t ri n gB uil d e r ( ) ;

4 f o r ( S t ri n g book : books )

5 sb . i n s e r t ( sb . indexOf (" c " ) , book ) ;

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

7 }

8 }

A. cars

B. cars carts

C. ccars arts

D. The code does not compile

E. The code compiles but throws an exception at runtime

2. (1 point) Fill in the blanks: The operators +=, \_\_\_\_, \_\_\_\_ , \_\_\_\_ , \_\_\_\_, and ++ are listed in increasing or the same level of operator precedence.

A. –, +, =, ––

B. %, \*, /, +

C. =, +, /, \*

D. ˆ , \* , - , ==

E. \*, /, %, –

3. (1 point) Which of the following are valid JavaBean signatures?

A. public byte getNose(String nose)

B. public void setHead(int head)

C. public String getShoulders()

D. public long isMouth()

E. public void gimmeEars()

F. public boolean isToes()

4. (1 point) Which of the following are true?

1 i n t [ ] c ro s swo r d [ ] = new i n t [ 1 0 ] [ 2 0 ] ;

2 f o r ( i n t i = 0 ; i < c ro s swo rd . l e n g t h ; i++)

3 f o r ( i n t j = 0 ; j < c ro s swo rd . l e n g t h ; j++) 4 c ro s swo r d [ i ] [ j ] = ’ x ’ ;

5 System . out . p r i n t l n ( c ro s swo r d . s i z e ( ) ) ;

A. One line needs to be changed for this code to compile.

B. Two lines need to be changed for this code to compile.

C. Three lines need to be changed for this code to compile.

D. If the code is fixed to compile, none of the cells in the 2D array have a value of 0.

E. If the code is fixed to compile, half of the cells in the 2D array have a value of 0.

F. If the code is fixed to compile, all of the cells in the 2D array have a value of 0.

5. (1 point) Which of the following statement(s) about java.lang.Error are most accu rate?

A. An Error should be thrown if a file system resource becomes temporarily unavailable.

B. An application should never catch an Error.

C. Error is a subclass of Exception, making it a checked exception. D. It is possible to catch and handle an Error thrown in an application. E. An Error should be thrown if a user enters invalid input.

6. (1 point) Given a class that uses the following import statement(s), which class would be automatically accessible without using its full package name?

1 import f o r e s t . Bird ;

2 import j u n gl e . t r e e . ∗ ;

3 import savana . ∗ ;

A. forest.Bird

B. savana.sand.Wave

C. jungle.tree.Huicungo

D. java.lang.Object

E. forest.Sloth

F. forest.ape.bonob

7. (1 point) How many of the following variables represent immutable objects?

1 A r ra yLi s t l = new A r ra yLi s t ( ) ;

2 S t ri n g s = new S t ri n g ( ) ;

3 S t ri n gB uil d e r sb = new S t ri n gB uil d e r ( ) ;

4 LocalDateTime t = LocalDateTime . now ( ) ;

A. None

B. One

C. Two

Page 2

D. Three

E. Four

F. None of the above—this code doesn’t compile.

8. (1 point) What is the output of the following?

1 S t ri n gB uil d e r b u i l d e r = new S t ri n gB uil d e r (" Leaves growing " ) ; 2 do {

3 b u i l d e r . d e l e t e ( 0 , 5 ) ;

4 } w hil e ( b u i l d e r . l e n g t h ( ) > 5 ) ;

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

A. Leaves growing

B. ing

C. wing

D. The code does not compile.

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

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

1 package r e a l i t y ;

2 p u bli c c l a s s E qui valenc y {

3 p u bli c s t a t i c void main ( S t ri n g [ ] edge s ) { 4 f i n a l S t ri n g c e i l i n g = "up " ;

5 S t ri n g f l o o r = new S t ri n g (" up " ) ;

6 f i n a l S t ri n g wall = new S t ri n g ( f l o o r ) ; 7 System . out . p r i n t ( ( c e i l i n g==wall )

8 +" "+( f l o o r==wall )

9 +" "+ c e i l i n g . e q u al s ( wall ) ) ;

10 }

11 }

A. false false false

B. true true true

C. false true true

D. false false true

E. It does not compile

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

1 p u bli c c l a s s Gi g gl e s {

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 g l o l = " l o l " ;

4 System . out . p r i n t l n ( l o l . toUpperCase ( ) == l o l ) ; Page 3

5 System . out . p r i n t l n ( l o l . toUpperCase ( ) == l o l . toUpperCase ( ) ) ;

6 System . out . p r i n t l n ( l o l . toUpperCase ( ) . e q u al s ( l o l ) ) ; 7 System . out . p r i n t l n ( l o l . toUpperCase ( ) . e q u al s ( l o l . toUpperCase ( ) ) ) ;

8 System . out . p r i n t l n ( l o l . toUpperCase ( ) . e q ual s Ig no r e Ca s e ( l o l ) ) ;

9 System . out . p r i n t l n ( l o l . toUpperCase ( ) . e q ual s Ig no r e Ca s e ( l o l . toUpperCase ( ) ) ) ;

10 }

11 }

A. One

B. Two

C. Three

D. Four

E. Five

F. None. The code does not compile

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

1 S t ri n g ra c e = " ";

2 o u t e r :

3 do {

4 i n n e r :

5 do {

6 ra c e += "x " ;

7 } w hil e ( ra c e . l e n g t h ( ) <= 4 ) ;

8 } w hil e ( ra c e . l e n g t h ( ) < 4 ) ;

9 System . out . p r i n t l n ( ra c e ) ;

A. Lines 2 and 4

B. Lines 2, 3, and 8

C. Line 4

D. Lines 4, 5, and 7

E. Line 7

F. Line 8

12. (1 point) Which of the following do not compile when filling in the blank? 1 lo ng bigNum = /∗INSERT CODE HERE∗ /;

A. 1234

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B. 1234.0

C. 1234.0L

D. 1234l

E. 1234L

F. 1\_234

13. (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 LocalTime time = LocalTime . 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. One

C. Two

D. This is an infinite loop.

E. The code does not compile

14. (1 point) What is the result of running the following program?

1 package fun ;

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

3 s t a t i c i n t [ ] [ ] game ;

4

5 p u bli c s t a t i c void main ( S t ri n g a rg s [ ] ) { 6 game [ 3 ] [ 3 ] = 6 ;

7 Objec t [ ] obj = game ;

8 obj [ 3 ] = ’X’ ;

9 System . out . p r i n t l n ( game [ 3 ] [ 3 ] ) ;

10 }

11 }

A. 6

B. X

C. The code does not compile.

D. The code compiles but throws a NullPointerException at runtime Page 5

E. The code compiles but throws a different exception at runtime. F. The output is not guaranteed.

15. (1 point) Which of the following use generics and compile without warnings? A. List<String> a = new ArrayList();

B. List<> b = new ArrayList();

C. List<String> c = new ArrayList<>();

D. List<> d = new ArrayList<>();

E. List<String> e = new ArrayList<String>();

F. List<> f = new ArrayList<String>();

16. (1 point) Which of the following are true right before the main() method ends?

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

2 S t ri n g shoe1 = new S t ri n g (" sa n dal " ) ;

3 S t ri n g shoe2 = new S t ri n g (" f l i p f l o p " ) ;

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

5

6 shoe1 = shoe2 ;

7 shoe2 = shoe3 ;

8 shoe3 = shoe1 ;

9 }

A. No objects are eligible for garbage collection.

B. One object is eligible for garbage collection.

C. Two objects are eligible for garbage collection.

D. No objects are guaranteed to be garbage collected.

E. One object is guaranteed to be garbage collected.

F. Two objects are guaranteed to be garbage collected.

17. (1 point) How many lines of the following application do not compile?

1 package ocean ;

2 c l a s s BubbleException e x te n d s Excep tion {}

3 c l a s s Fi sh {

4 Fi sh g e tFi s h ( ) throws BubbleException {

5 throw new RuntimeException (" f i s h ! " ) ;

6 }

7 }

8 p u bli c f i n a l c l a s s Clownfi sh e x te n d s Fi sh {

9 p u bli c f i n a l Clownfi sh g e tFi s h ( ) {

10 throw new RuntimeException (" clown ! " ) ; 11 }

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12 p u bli c s t a t i c void main ( S t ri n g [ ] bubble s ) { 13 f i n a l Fi sh f = new Clownfi sh ( ) ;

14 f . g e tFi s h ( ) ;

15 System . out . p r i n t l n (" swim ! " ) ;

16 }

17 }

A. None. The code compiles and prints swim!

B. None. The code compiles and prints a stack trace.

C. One

D. Two

E. Three

18. (1 point) How many lines does this code output?

1 import ja va . u t i l . ∗ ;

2 import ja va . u t i l . f u n c ti o n . ∗ ;

3 p u bli c c l a s s P ri n tN ega ti v e {

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

5 Li s t <I n t eg e r > l i s t= new A r rayLi s t <>() ;

6 l i s t . add (−5) ;

7 l i s t . add ( 0 ) ;

8 l i s t . add ( 5 ) ;

9 p r i n t ( l i s t , e −> e < 0 ) ;

10 }

11 p u bli c s t a t i c void p r i n t ( Li s t <I n t eg e r > l i s t , P r e di ca t e < I n t eg e r > p ) {

12 f o r ( I n t e g e r num : l i s t )

13 i f ( p . t e s t (num) )

14 System . out . p r i n t l n (num) ;

15 }

16 }

A. 1

B. 2

C. 3

D. None. It doesn’t compile

E. None. It throws an exception at runtime

19. (1 point) Which keywords are required with a try statement?

1. finalize

2. catch

3. throws

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4. finally

A. 1 only

B. 2 only

C. 3 only

D. 4 only

E. 1 or 2, or both

F. None of the above

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

1 i n t r e s u l t = 8 ;

2 loo p : w hil e ( r e s u l t > 7 ) {

3 r e s u l t ++;

4 do {

5 r e s u l t −−;

6 } w hil e ( r e s u l t > 5 ) ;

7 b reak loo p ;

8 }

9 System . out . p r i n t l n ( r e s u l t ) ;

A. 5

B. 7

C. 8

D. The code does not compile

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

21. (1 point) What is the result of compiling and executing the following application?

1 package r e p t i l e ;

2 p u bli c c l a s s A l l i g a t o r {

3 s t a t i c i n t t e e t h ;

4 double s cal eTo ug h n e s s ;

5 p u bli c A l l i g a t o r ( ) {

6 t e e t h++;

7 }

8 p u bli c void snap ( i n t t e e t h ) {

9 System . out . p r i n t ( t e e t h+" " ) ;

10 te e t h −−;

11 }

12 p u bli c s t a t i c void main ( S t ri n g [ ] unused ) { 13 new A l l i g a t o r ( ) . snap ( t e e t h ) ;

14 new A l l i g a t o r ( ) . snap ( t e e t h ) ;

15 }

16 }

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A. 0 1

B. 1 1

C. 1 2

D. 2 2

E. The code does not compile

F. The code compiles but produces an exception at runtime

22. (1 point) What is the output of the following?

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

2 p u bli c s t a t i c void main ( S t ri n g [ ] bla c k ) { 3 S t ri n g wi tch = "b " ;

4 S t ri n g t a i l = " l a c k " ;

5 wi tch . conca t ( t a i l ) ;

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

7 }

8 }

A. b

B. black

C. lack

D. The code does not compile.

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

23. (1 point) Which modifiers can be independently applied to an interface method? A. default

B. protected

C. static

D. private

E. final

F. abstract

24. (1 point) What is the output of the following?

1 p u bli c c l a s s S h o el a c e s {

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 g t i e = n u l l ;

4 w hil e ( t i e = n u l l )

5 t i e = " s h o el a c e " ;

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

7 }

8 }

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A. null

B. shoelace

C. shoelaceshoelace

D. The code does not compile

E. This is an infinite loop.

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

25. (1 point) What statement(s) are true about compiling a Java class file?

A. If the file does not contain a package statement, then the compiler considers the class part of the java.lang package.

B. The compiler assumes every class implicitly imports the java.lang.\* package. C. The compiler assumes every class implicitly imports the java.util.\* package. D. Java requires every file to declare a package statement.

E. Java requires every file to declare at least one import statement.

F. If the class declaration does not extend another class, then it implicitly extends the java.lang.Object class.

26. (1 point) What is the output of the following application?

1 package woods ;

2 i n t e r f a c e Plan t {

3 d ef a u l t S t ri n g grow ( ) { r e t u r n "Grow ! " ; }

4 }

5 i n t e r f a c e Li vi ng {

6 p u bli c d ef a u l t S t ri n g grow ( ) { r e t u r n "Growing ! " ; } 7 }

8 p u bli c c l a s s Tree implements Plant , Li vi ng { // m1 9 p u bli c S t ri n g grow ( i n t h ei g h t ) { r e t u r n " Super Growing ! " ; } 10 p u bli c s t a t i c void main ( S t ri n g [ ] l e a v e s ) {

11 Plan t p = new Tree ( ) ; // m2

12 System . out . p r i n t ( ( ( Li vi ng ) p ) . grow ( ) ) ; // m3 13 }

A. Grow!

B. Growing!

C. Super Growing!

D. It does not compile because of line m1.

E. It does not compile because of line m2.

F. It does not compile because of line m3.

27. (1 point) What is the output of the following?

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

2 S t ri n g name = " D e si r e e " ;

3 i n t \_number = 694;

4 boolean p r of i t $ $ $ ;

5 System . out . p r i n t l n ( name + " won . " + \_number + " p r o f i t ? " + p r of i t $ $ $ ) ;

6 }

A. The declaration of name does not compile.

B. The declaration of \_number does not compile.

C. The declaration of profit$$$ does not compile.

D. The println statement does not compile.

E. The code compiles and runs successfully.

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

28. (1 point) Fill in the blanks: Given a variable x, \_\_\_ decreases the value of x by 1 and returns the original value, while \_\_\_ increases the value of x by 1 and returns the new value.

A. x––, ++x

B. x––, x++

C. ––x, x++

D. ––x, ++x

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29. (1 point) Given the following two classes in the same package, which constructor(s) contain compiler errors?

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

2 p u bli c Big ( boolean s t i l l I n ) {

3 supe r ( ) ;

4 }

5 }

6 p u bli c c l a s s Trouble e x t e n d s Big {

7 p u bli c Trouble ( ) {}

8 p u bli c Trouble ( i n t deep ) {

9 supe r ( f a l s e ) ;

10 t h i s ( ) ;

11 }

12 p u bli c Trouble ( S t ri n g now , i n t . . . deep ) {

13 t h i s ( 3 ) ;

14 }

15 p u bli c Trouble ( lo ng deep ) {

16 t h i s (" check " , deep ) ;

17 }

18 p u bli c Trouble ( double t e s t ) {

19 supe r ( t e s t >5 ? t r u e : f a l s e ) ;

20 }

21 }

A. public Big(boolean stillIn)

B. public Trouble()

C. public Trouble(int deep)

D. public Trouble(String now, int... deep)

E. public Trouble(long deep)

F. public Trouble(double test)

30. (1 point) Which of the following can replace the comment so this code outputs 100?

1 p u bli c c l a s s S t a t s {

2 // INSERT CODE

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

4 System . out . p r i n t l n (max − min ) ;

5 }

6 }

A. final int min, max = 100;

B. final int min = 0, max = 100;

C. int min, max = 100;

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D. int min = 0, max = 100;

E. static int min, max = 100;

F. static int min = 0, max = 100;

31. (1 point) Which of the following statement(s) are true about Java operators and state ment(s)?

A. Both right-hand sides of the ternary expression will be evaluated at runtime. B. A switch statement may contain at most one default statement.

C. A single if-then statement can have multiple else statement(s).

D. The | and || operator are interchangeable, always producing the same results at runtime.

E. The ! operator may not be applied to numeric expressions

32. (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 , 1 ) ;

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

8 }

9 }

A. r

B. e

C. ed

D. red

E. The code does not compile.

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

33. (1 point) Which of the following is a valid method name in Java? A. \_\_\_\_\_()

B. %run()

C. check-Activity()

D. $Hum2()

E. sing\\3()

F. po#ut ()

34. (1 point) Which of the following statement(s) about inheritance are true? Page 13

A. Inheritance is better than using static methods for accessing data in other classes.

B. Inheritance allows a method to be overridden in a subclass, possibly changing the expected behaviour of other methods in a superclass.

C. Inheritance allows objects to inherit commonly used attributes and methods. D. It is possible to create a Java class that does not inherit from any other. E. Inheritance tends to make applications more complicated.

35. (1 point) Which of the following statement(s) about Java are true?

1. The java command uses . to separate packages.

2. Java supports functional programming.

3. Java is object oriented.

4. Java supports polymorphism.

A. 1

B. 2 only

C. 2 and 4

D. 1, 3, and 4

E. All 4

F. None are true

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

1 S t ri n g [ ] [ ] l i s t i n g = new S t ri n g [ ] [ ] { { "Book " , "34.99" } , 2 { "Game" , "29.99" } , { "Pen " , ".99" } } ;

3 System . out . p r i n t l n ( l i s t i n g . l e n g t h + " " + l i s t i n g [ 0 ] . l e n g t h ) ;

A. 2 2

B. 2 3

C. 3 2

D. 3 3

E. The code does not compile.

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

37. (1 point) Which of the following variable types is permitted in a switch statement? A. Character

B. Byte

C. Double

D. long

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E. String

F. Object

38. (1 point) What does the following do?

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

2 i n t e r f a c e Target {

3 boolean needToAim ( double a ngl e ) ;

4 }

5 s t a t i c void p r e pa r e ( double angle , Target t ) { 6 boolean ready = t . needToAim ( a ngl e ) ; // k1 7 System . out . p r i n t l n ( ready ) ;

8 }

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

10 p r e pa r e (45 , d => d > 5 | | d < −5) ; // k2 11 }

12 }

A. It prints true

B. It prints false

C. It doesn’t compile due to line k1.

D. It doesn’t compile due to line k2.

E. It doesn’t compile due to another line.

39. (1 point) Which of the following is a valid code comment in Java? A. /\*\* Insert \*/ in next method \*\*/

B. /\*\*\*\*\*\* Find the kitty cat miao miao \*/

C. // Is this a bug?

D. / Begin method - performStart() /

E. /\*\*\* TODO: Call grandma \*\*\*/

F. # Updated code by Joaquin

40. (1 point) Given the following two classes, each in a different package, which lines allow the second class to compile when inserted independently?

1 package food ;

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

3 p u bli c s t a t i c i n t s e e d s = 1 0;

4 p u bli c s t a t i c Grass g e tG ra s s ( ) { r e t u r n new Grass ( ) ; } 5 }

6 package woods ;

7 // INSERT CODE HERE

8 p u bli c c l a s s Deer {

9 p u bli c void ea t ( ) {

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10 g e tG ra s s ( ) ;

11 System . out . p r i n t ( s e e d s ) ;

12 }

13 }

A. import static food.Grass.getGrass;

import static food.Grass.seeds;

B. import static food.\*;

C. static import food.Grass.\*;

D. import food.Grass.\*;

E. static import food.Grass.getGrass;

static import food.Grass.seeds;

F. import static food.Grass.\*;

41. (1 point) What is the result of the following?

1 import ja va . u t i l . ∗ ;

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

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 [ ] a r ra y = {" Na tu ral Hi s to r y " , " S ci e n c e " , "Art " }; 5 Li s t <S t ri ng > museums = Arrays . a s L i s t ( a r ra y ) ; 6 museums . remove ( 2 ) ;

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

8 }

9 }

A. [Natural History, Science]

B. [Natural History, Science, Art]

C. The code does not compile.

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

42. (1 point) Which of the following substitutions will compile?

1 p u bli c c l a s s U n d e r s co r e s {

2 p u bli c S t ri n g name = " S h e r ri n " ;

3 p u bli c void massage ( ) {

4 i n t zi p = 10017;

5 }

6 }

A. Change name to \_name

B. Change 10017 to \_10017

C. Change 10017 to 10017\_

D. Change int to \_int

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E. Runtime exception

43. (1 point) What is the result of the following when called as java counting.Binary?

1 package co u n ti ng ;

2 import ja va . u t i l . ∗ ;

3 p u bli c c l a s s Binary {

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

5 a rg s = new S t ri n g [ ] {"0" , "1" , "01" , "10" } ; 6 Arrays . s o r t ( a rg s ) ;

7 System . out . p r i n t l n ( Arrays . t o S t ri n g ( a rg s ) ) ; 8 }

9 }

A. []

B. [0, 01, 1, 10]

C. [0, 01, 10, 1]

D. [0, 1, 01, 10]

E. The code does not compile.

F. The code compiles but throws an exception at runtime

44. (1 point) Fill in the blanks: Using the \_\_\_\_ and \_\_\_\_ modifiers together allows a variable to be accessed from any class, without requiring an instance variable.

A. final, package-private

B. class, static

C. protected, instance

D. public, static

E. default, public

45. (1 point) How many lines does the following code output?

1 import ja va . u t i l . ∗ ;

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

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

4 Li s t <S t ri ng > exams = Arrays . a s L i s t ("OCA" , "OCP" ) ; 5 f o r ( S t ri n g e1 : exams )

6 f o r ( S t ri n g e2 : exams )

7 System . out . p r i n t ( e1 + " " + e2 ) ;

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

9 }

10 }

A. One

B. Four

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C. Five

D. The code does not compile.

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

46. (1 point) Which of the following are true statement(s)?

A. The javac command compiles a source text file into a set of machine instruc tions.

B. The java command compiles a .class file into a .java file.

C. The javac command compiles a .java file into a .class file.

D. The javac command compiles a source text file into a bytecode file. E. The java command compiles a .java file into a .class file.

F. The javac command compiles a .class file into a .java file.

47. (1 point) How many of the following lines of code compile?

1 cha r one = I n t e g e r . p a r s e I n t ("1" ) ;

2 Cha rac te r two = I n t e g e r . p a r s e I n t ("2" ) ;

3 i n t t h r e e = I n t e g e r . p a r s e I n t ("3" ) ;

4 I n t e g e r f o u r = I n t e g e r . p a r s e I n t ("4" ) ;

5 s h o r t f i v e = I n t e g e r . p a r s e I n t ("5" ) ;

6 Sho r t s i x = I n t e g e r . p a r s e I n t ("6" ) ;

A. None

B. 1

C. 2

D. 3

E. 4

F. 5

48. (1 point) Given the application below, what data types can be inserted that would allow the code to print 3? Select 1 option.

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

2 p u bli c i n t d ri v e ( lo ng ca r ) { r e t u r n 2 ; }

3 p u bli c i n t d ri v e ( double ca r ) { r e t u r n 3 ; }

4 p u bli c i n t d ri v e ( i n t ca r ) { r e t u r n 5 ; }

5 p u bli c i n t d ri v e ( s h o r t ca r ) { r e t u r n 3 ; }

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

7 /∗INSERT CODE HERE ∗/ val u e = 5 ;

8 System . out . p r i n t ( new Highway ( ) . d ri v e ( val u e ) ) ; 9 }

10 }

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A. boolean

B. short

C. int

D. byte

E. long

F. float

49. (1 point) How many times does this code print true?

1 import ja va . time . ∗ ;

2 p u bli c c l a s s E q uali t y {

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

4 System . out . p r i n t l n ( new S t ri n gB uil d e r (" z el d a " ) 5 == new S t ri n gB uil d e r (" z el d a " ) ) ;

6 System . out . p r i n t l n (3 == 3 ) ;

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

8 System . out . p r i n t l n ( new i n t [ 0 ] == new i n t [ 0 ] ) ; 9 System . out . p r i n t l n ( LocalTime . now ( ) == LocalTime . now ( ) ) ; 10 }

11 }

A. None

B. One

C. Two

D. Three

E. The code does not compile

50. (1 point) What is the output of the following application?

1 package ball room ;

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

3 p u bli c s t a t i c void swing ( i n t . . . b ea t s ) throws Cla s sCa s tE x c e p tio n {

4 t r y {

5 System . out . p r i n t ("1"+ b ea t s [ 2 ] ) ; // p1 6 } ca tc h ( RuntimeException e ) {

7 System . out . p r i n t ("2" ) ;

8 } ca tc h ( Excep tion e ) {

9 System . out . p r i n t ("3" ) ;

10 } f i n a l l y {

11 System . out . p ri n t ("4" ) ;

12 }

13 }

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

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15 new Dance ( ) . swing ( 0 , 0 ) ; // p2

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

17 }

18 }

A. 145

B. 1045

C. 24, followed by a stack trace

D. 245

E. The code does not compile because of line p1

F. The code does not compile because of line p2

51. (1 point) What is the output of the following?

1 Li s t <S t ri ng > d ri n k s = Arrays . a s L i s t (" can " , " cup " ) ; 2 f o r ( i n t c o n t ai n e r = d ri n k s . s i z e ( ) ; c o n t ai n e r > 0 ; c o n t ai n e r++) {

3 System . out . p r i n t ( d ri n k s . g e t ( co n tai n e r −1) + " ," ) ; 4 }

A. can,cup,

B. cup,can,

C. The code does not compile.

D. This is an infinite loop.

E. The code compiles but throws an exception at runt

52. (1 point) Which of the following method signatures are valid declarations of an entry point in a Java application?

A. public static void main(String... widgets)

B. public static void main(String sprockets)

C. protected static void main(String[] args)

D. public static int void main(String[] arg)

E. public static final void main(String []a)

F. public static void main(String[] data)

53. (1 point) Given the application below and the choices available, which lines must all be removed to allow the code to compile?

1 package yea 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 main ( S t ri n g [ ] time ) {

4 f i n a l lo ng wi n t e r = 1 0;

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5 f i n a l by te s ea so n = 2 ;

6 i n t f a l l = 4 ;

7 f i n a l s h o r t summer = 3 ;

8 swi t c h ( s ea so n ) {

9 ca s e 1 :

10 ca s e wi n t e r : System . out . p r i n t (" wi n t e r " ) ; 11 d ef a u l t :

12 ca s e f a l l : System . out . p r i n t (" f a l l " ) ; 13 ca s e summer : System . out . p r i n t (" summer" ) ; 14 d ef a u l t :

15 }

16 }

17 }

A. Line 8

B. Line 9

C. Line 10

D. Line 11

E. Line 12

F. Line 13

54. (1 point) Given the application below, which lines do not compile?

1 package f u r r y f r i e n d s ;

2 i n t e r f a c e F riend {

3 p r o t e c t e d S t ri n g getName ( ) ; // h1

4 }

5 c l a s s Cat implements F riend {

6 S t ri n g getName ( ) { // h2

7 r e t u r n " Ki t t y " ;

8 }

9 }

10 p u bli c c l a s s Dog implements F riend {

11 S t ri n g getName ( ) throws RuntimeException { // h3 12 r e t u r n "Doggy " ;

13 }

14 p u bli c s t a t i c void main ( S t ri n g [ ] adop tion ) { 15 F riend f r i e n d = new Dog ( ) ; // h4

16 System . out . p r i n t ( ( ( Cat ) f r i e n d ) . getName ( ) ) ; // h5 17 System . out . p r i n t ( ( ( Dog ) n u l l ) . getName ( ) ) ; // h6 18 }

19 }

A. Line h1

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B. Line h2

C. Line h3

D. Line h4

E. Line h5

F. Line h6

55. (1 point) Which of the following are unchecked exceptions?

A. FileNotFoundException

B. ArithmeticException

C. IOException

D. Exception

E. IllegalArgumentException

F. RuntimeException

56. (1 point) What is the result of compiling and executing the following application?

1 package ranch ;

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

3 p r i v a t e i n t space = 5 ;

4 p r i v a t e double s hi p = space < 2 ? 1 : 1 0; // g1 5 p u bli c void p rin tM e s sage ( ) {

6 i f ( ship >1) {

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

8 } i f ( ship <10 && space >=2) System . out . p r i n t l n (" H ell o " ) ; // g2

9 e l s e System . out . p r i n t l n (" See you agai n " ) ; 10 }

11 p u bli c s t a t i c f i n a l void main ( S t ri n g . . . s t a r s ) { 12 new Cowboy ( ) . p ri n tMe s sag e ( ) ;

13 }

14 }

A. It only prints Hello

B. It only prints Goodbye

C. It only prints See you again

D. It does not compile because of line g1

E. It does not compile because of line g2

F. None of the above

57. (1 point) Given the following three class declarations, which sets of access modifiers can be inserted, in order, into the blank lines below that would allow all of the classes to compile?

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1 package wake ;

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

3 /∗INSERT CODE HERE∗/ s t a t i c i n t cl o c k ;

4 /∗INSERT CODE HERE∗/ lo ng getTime ( ) { r e t u r n cl o c k ; } 5 }

6 package wake ;

7 p u bli c c l a s s Coff e e {

8 p r i v a t e boolean b ri n g C off e e ( ) { r e t u r n new Alarm ( ) . clo c k <10;}

9 }

10 package s l e e p ;

11 p u bli c c l a s s Snooze e x t en d s wake . Alarm {

12 p r i v a t e boolean checkTime ( ) { r e t u r n getTime ( ) >10;} 13 }

A. protected and package-private (blank)

B. public and private

C. package-private (blank) and protected

D. protected and protected

E. private and public

F. package-private (blank) and package-private (blank)

58. (1 point) Given that FileNotFoundException is a subclass of IOException and Long is a subclass of Number, what is the output of the following application?

1 package m a t e r i a l s ;

2 import ja va . i o . ∗ ;

3 c l a s s Ca rbonS t ruc tu re {

4 p r o t e c t e d lo ng count ;

5 p u bli c a b s t r a c t Number getCount ( ) throws IOException ; // q1 6 p u bli c Ca rbonS t ruc tu re ( i n t count ) { t h i s . count = count ; } 7 }

8 p u bli c c l a s s Diamond e x t e n d s Ca rbonS t ruc tu re {

9 p u bli c Diamond ( ) { supe r (15 ) ; }

10 p u bli c Long getCount ( ) throws FileNotFoundExcep tion { // q2 11 r e t u r n count ;

12 }

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

14 t r y {

15 f i n a l Ca rbonS t ruc tu re ri n g = new Diamond ( ) ; // q3 16 System . out . p ri n t ( ri n g . getCount ( ) ) ; // q4 17 } ca tc h ( IOException e ) {

18 e . p ri n t S ta c kT ra c e ( ) ;

19 }

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20 }

21 }

A. 15

B. It does not compile because of line q1

C. It does not compile because of line q2

D. It does not compile because of line q3

E. It does not compile because of line q4

F. It compiles but throws an exception at runtime.

59. (1 point) How many lines contain a compile error?

1 import ja va . time . ∗ ;

2 import ja va . time . fo rma t . ∗ ;

3

4 p u bli c c l a s s HowLong {

5 p u bli c void main ( S t ri n g h ) {

6 LocalDate newYears = new LocalDate (2017 , 1 , 1 ) ; 7 Pe riod p e ri o d = Pe riod . ofY ea r s ( 1 ) . ofDays ( 1 ) ; 8 DateTimeFormat fo rma t = DateTimeFormat . ofPa t t e r n ("MM−dd −yyyy " ) ;

9 System . out . p r i n t ( fo rma t . fo rma t ( newYears . minus ( p e ri o d ) ) ) ;

10 }

11 }

A. 0

B. 1

C. 2

D. 3

E. 4

F. 5

60. (1 point) Which of the following statement(s) about try-catch blocks are correct? A. A catch block can never appear after a finally block.

B. A try block must be followed by a catch block.

C. A finally block can never appear after a catch block.

D. A try block must be followed by a finally block.

E. A try block can have zero or more catch blocks.

F. A try block can have zero or more finally blocks.

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Answeras:

<https://docs.google.com/forms/d/e/1FAIpQLSdSSp_kdlVU7TGFt-c675WaXILx4WBXSDZ3On2eueCn0tbEhA/viewscore?vc=0&c=0&w=1&flr=0&viewscore=AE0zAgASikxq47hbnX2r7hmP2yCbG4-AC345rmrj7rc_kiLPOrSkdno0jzcYXIf2ag>