1.Given

public class Bunnies {

static int count = 0;

Bunnies() {

while(count < 10) new Bunnies(++count);

}

Bunnies(int x) { super(); }

public static void main(String[] args) {

new Bunnies();

new Bunnies(count);

System.out.println(count++);

}

}

What is the result?

A. 9

B. 10

C. 11

D. 12

E. Compilation fails.

F. An exception is thrown at runtime

2. public class Jail {

private int x = 4;

public static void main(String[] args) {

protected int x = 6;

new Jail().new Cell().slam();

}

class Cell {

void slam(){ System.out.println("throw away key " + );

}

}

}

Which are true? (Choose all that apply.)

A. Compilation succeeds.

B. The output is "throw away key 4".

C. The output is "throw away key 6".

D. Compilation fails due to an error on line 5.

E. Compilation fails due to an error on line 6.

F. Compilation fails due to an error on line 9.

LOCAL VAREIABLES CANNOT HAVE ACCESS SPEICIFER OTHER THAN “DEFAULT” AND “FINAL.”

3. Given

public class Fishing {

byte b1 = 4;

int i1 = 123456;

long L1 = (long)i1; // line A

short s2 = (short)i1; // line B

byte b2 = (byte)i1; // line C

int i2 = (int)123.456; // line D

byte b3 = b1 + 7; // line E

}

Which lines WILL NOT compile? (Choose all that apply.)

A. Line A

B. Line B

C. Line C

D. Line D

E. Line E

4.Given:

class Mixer {

Mixer() { }

Mixer(Mixer m) { m1 = m; }

Mixer m1;

public static void main(String[] args) {

Mixer m2 = new Mixer();

Mixer m3 = new Mixer(m2); m3.go();

Mixer m4 = m3.m1; m4.go();

Mixer m5 = m2.m1; m5.go();

}

void go() { System.out.print("hi "); }

}

What is the result?

A. hi

B. hi hi

C. hi hi hi

D. Compilation fails

E. hi, followed by an exception

F. hi hi, followed by an exception

5. Given:

class Fizz {

int x = 5;

public static void main(String[] args) {

final Fizz f1 = new Fizz();

Fizz f2 = new Fizz();

Fizz f3 = FizzSwitch(f1,f2);

System.out.println((f1 == f3) + " " + (f1.x == f3.x));

}

static Fizz FizzSwitch(Fizz x, Fizz y) {

final Fizz z = x;

z.x = 6;

return z;

} }

What is the result?

A. true true

B. false true

C. true false

D. false false

E. Compilation fails

F. An exception is thrown at runtime

**6.** Given:

public class Mirror {

int size = 7;

public static void main(String[] args) {

Mirror m1 = new Mirror();

Mirror m2 = m1;

int i1 = 10;

int i2 = i1;

go(m2, i2);

System.out.println(m1.size + " " + i1);

}

static void go(Mirror m, int i) {

m.size = 8;

i = 12;

}

}

What is the result?

A. 7 10

B. 8 10

C. 7 12

D. 8 12

E. Compilation fails

F. An exception is thrown at runtime

**7.** Given:

public class Wind {

int id;

Wind(int i) { id = i; }

public static void main(String[] args) {

new Wind(3).go();

// commented line

}

void go() {

Wind w1 = new Wind(1);

Wind w2 = new Wind(2);

System.out.println(w1.id + " " + w2.id);

}

}

When execution reaches the commented line, which are true? (Choose all that apply.)

A. The output contains 1

B. The output contains 2

C. The output contains 3

D. Zero objects are eligible for garbage collection

E. One object is eligible for garbage collection

F. Two objects are eligible for garbage collection

G. Three objects are eligible for garbage collection

8 Given:

3. public class Ouch {

4. static int ouch = 7;

5. public static void main(String[] args) {

6. new Ouch().go(ouch);

7. System.out.print(" " + ouch);

8. }

9. void go(int ouch) {

10. ouch++;

11. for(int ouch = 3; ouch < 6; ouch++)

12. ;

13. System.out.print(" " + ouch);

14. }

15. }

What is the result?

A. 5 7

B. 5 8

C. 8 7

D. 8 8

E. Compilation fails

F. An exception is thrown at runtime

**9.** Given:

public class Happy {

int id;

Happy(int i) { id = i; }

public static void main(String[] args) {

Happy h1 = new Happy(1);

Happy h2 = h1.go(h1);

System.out.println(h2.id);

}

Happy go(Happy h) {

Happy h3 = h;

h3.id = 2;

h1.id = 3;

return h1;

}

}

What is the result?

A. 1

B. 2

C. 3

D. Compilation fails

E. An exception is thrown at runtime

**10.** Given:

public class Network {

Network(int x, Network n) {

id = x;

p = this;

if(n != null) p = n;

}

int id;

Network p;

public static void main(String[] args) {

Network n1 = new Network(1, null);

n1.go(n1);

}

void go(Network n1) {

Network n2 = new Network(2, n1);

Network n3 = new Network(3, n2);

System.out.println(n3.p.p.id);

}

}

What is the result?

A. 1

B. 2

C. 3

D. null

E. Compilation fails

11 Given:

3. class Beta { }

4. class Alpha {

5. static Beta b1;

6. Beta b2;

7. }

8. public class Tester {

9. public static void main(String[] args) {

10. Beta b1 = new Beta(); Beta b2 = new Beta();

11. Alpha a1 = new Alpha(); Alpha a2 = new Alpha();

12. a1.b1 = b1;

13. a1.b2 = b1;

14. a2.b2 = b2;

15. a1 = null; b1 = null; b2 = null;

16. // do stuff

17. }

18. }

When line 16 is reached, how many objects will be eligible for garbage collection?

A. 0

B. 1

C. 2

D. 3

E. 4

F. 5

**12.** Given:

public class Telescope {

static int magnify = 2;

public static void main(String[] args) {

go();

}

static void go() {

int magnify = 3;

zoomIn();

}

static void zoomIn() {

magnify \*= 5;

zoomMore(magnify);

System.out.println(magnify);

}

static void zoomMore(int magnify) {

magnify \*= 7;

}

}

What is the result?

A. 2

B. 10

C. 15

D. 30

E. 70

F. 105

G. Compilation fails

**13.** Given:

3. public class Dark {

4. int x = 3;

5. public static void main(String[] args) {

6. new Dark().go1();

7. }

8. void go1() {

9. int x;

10. go2(++x);

11. }

12. void go2(int y) {

13. int x = ++y;

14. System.out.println(x);

15. }

16. }

What is the result?

A. 2

B. 3

C. 4

D. 5

E. Compilation fails

F. An exception is thrown at runtime

14 Given:

3. class Dog {

4. public void bark() { System.out.print("woof "); }

5. }

6. class Hound extends Dog {

7. public void sniff() { System.out.print("sniff "); }

8. public void bark() { System.out.print("howl "); }

9. }

10. public class DogShow {

11. public static void main(String[] args) { new DogShow().go(); }

12. void go() {

13. new Hound().bark();

14. ((Dog) new Hound()).bark();

15. ((Dog) new Hound()).sniff();

16. }

17. }

What is the result? (Choose all that apply.)

A. howl howl sniff

B. howl woof sniff

C. howl howl followed by an exception

D. howl woof followed by an exception

E. Compilation fails with an error at line 14

F. Compilation fails with an error at line 15

**15.** Given:

3. public class Redwood extends Tree {

4. public static void main(String[] args) {

5. new Redwood().go();

6. }

7. void go() {

8. go2(new Tree(), new Redwood());

9. go2((Redwood) new Tree(), new Redwood());

10. }

11. void go2(Tree t1, Redwood r1) {

12. Redwood r2 = (Redwood)t1;

13. Tree t2 = (Tree)r1;

14. }

15. }

16. class Tree { }

What is the result? (Choose all that apply.)

A. An exception is thrown at runtime

B. The code compiles and runs with no output

C. Compilation fails with an error at line 8

D. Compilation fails with an error at line 9

E. Compilation fails with an error at line 12

F. Compilation fails with an error at line 13

**16.** Given:

3. public class Tenor extends Singer {

4. public static String sing() { return "fa"; }

5. public static void main(String[] args) {

6. Tenor t = new Tenor();

7. Singer s = new Tenor();

8. System.out.println(t.sing() + " " + s.sing());

9. }

10. }

11. class Singer { public static String sing() { return "la"; } }

What is the result?

A. fa fa

B. fa la

C. la la

D. Compilation fails

E. An exception is thrown at runtime

**17.** Given:

3. class Alpha {

4. static String s = " ";

5. protected Alpha() { s += "alpha "; }

6. }

7. class SubAlpha extends Alpha {

8. private SubAlpha() { s += "sub "; }

9. }

10. public class SubSubAlpha extends Alpha {

11. private SubSubAlpha() { s += "subsub "; }

12. public static void main(String[] args) {

13. new SubSubAlpha();

14. System.out.println(s);

15. }

16. }

What is the result?

A. subsub

B. sub subsub

C. alpha subsub

D. alpha sub subsub

E. Compilation fails

F. An exception is thrown at runtime

**18.** Given:

3. class Building {

4. Building() { System.out.print("b "); }

5. Building(String name) {

6. this(); System.out.print("bn " + name);

7. }

8. }

9. public class House extends Building {

10. House() { System.out.print("h "); }

11. House(String name) {

12. this(); System.out.print("hn " + name);

13. }

14. public static void main(String[] args) { new House("x "); }

15. }

What is the result?

A. h hn x

B. hn x h

C. b h hn x

D. b hn x h

E. bn x h hn x

F. b bn x h hn x

G. bn x b h hn x

H. Compilation fails

**19.** Given:

3. class Mammal {

4. String name = "furry ";

5. String makeNoise() { return "generic noise"; }

6. }

7. class Zebra extends Mammal {

8. String name = "stripes ";

9. String makeNoise() { return "bray"; }

10. }

11. public class ZooKeeper {

12. public static void main(String[] args) { new ZooKeeper().go(); }

13. void go() {

14. Mammal m = new Zebra();

15. System.out.println(m.name + m.makeNoise());

16. }

17. }

What is the result?

A. furry bray

B. stripes bray

C. furry generic noise

D. stripes generic noise

E. Compilation fails

F. An exception is thrown at runtime

**20.** Given:

You're designing a new online board game in which Floozels are a type of Jammers, Jammers

can have Quizels, Quizels are a type of Klakker, and Floozels can have several Floozets.

Which of the following fragments represent this design? (Choose all that apply.)

A. import java.util.\*;

interface Klakker { }

class Jammer { Set<Quizel> q; }

class Quizel implements Klakker { }

public class Floozel extends Jammer { List<Floozet> f; }

interface Floozet { }

B. import java.util.\*;

class Klakker { Set<Quizel> q; }

class Quizel extends Klakker { }

class Jammer { List<Floozel> f; }

class Floozet extends Floozel { }

public class Floozel { Set<Klakker> k; }

C. import java.util.\*;

class Floozet { }

class Quizel implements Klakker { }

class Jammer { List<Quizel> q; }

interface Klakker { }

class Floozel extends Jammer { List<Floozet> f; }

D. import java.util.\*;

interface Jammer extends Quizel { }

interface Klakker { }

interface Quizel extends Klakker { }

interface Floozel extends Jammer, Floozet { }

interface Floozet { }

**21.** Given:

1. public class Electronic implements Device

{ public void doIt() { } }

2.

3. abstract class Phone1 extends Electronic { }

4.

5. abstract class Phone2 extends Electronic

{ public void doIt(int x) { } }

6.

7. class Phone3 extends Electronic implements Device

{ public void doStuff() { } }

8.

9. interface Device { public void doIt(); }

What is the result? (Choose all that apply.)

A. Compilation succeeds

B. Compilation fails with an error on line 1

C. Compilation fails with an error on line 3

D. Compilation fails with an error on line 5

E. Compilation fails with an error on line 7

F. Compilation fails with an error on line 9

**22.** Given:

4. class Announce {

5. public static void main(String[] args) {

6. for(int \_\_x = 0; \_\_x < 3; \_\_x++) ;

7. int #lb = 7;

8. long [] x [5];

9. Boolean []ba[];

10. }

11. }

What is the result? (Choose all that apply.)

A. Compilation succeeds

B. Compilation fails with an error on line 6

C. Compilation fails with an error on line 7

D. Compilation fails with an error on line 8

E. Compilation fails with an error on line 9

**23.** Given:

3. public class TestDays {

4. public enum Days { MON, TUE, WED };

5. public static void main(String[] args) {

6. for(Days d : Days.values() )

7. ;

8. Days [] d2 = Days.values();

9. System.out.println(d2[2]);

10. }

11. }

What is the result? (Choose all that apply.)

A. TUE

B. WED

C. The output is unpredictable

D. Compilation fails due to an error on line 4

E. Compilation fails due to an error on line 6

F. Compilation fails due to an error on line 8

G. Compilation fails due to an error on line 9

**24.** Given:

4. public class Frodo extends Hobbit

5. public static void main(String[] args) {

6. int myGold = 7;

7. System.out.println(countGold(myGold, 6));

8. }

9. }

10. class Hobbit {

11. int countGold(int x, int y) { return x + y; }

12. }

What is the result?

A. 13

B. Compilation fails due to multiple errors

C. Compilation fails due to an error on line 6

D. Compilation fails due to an error on line 7

E. Compilation fails due to an error on line 11

**25.** Given:

interface Gadget {

void doStuff();

}

abstract class Electronic {

void getPower() { System.out.print("plug in "); }

}

public class Tablet extends Electronic implements Gadget {

void doStuff() { System.out.print("show book "); }

public static void main(String[] args) {

new Tablet().getPower();

new Tablet().doStuff();

}

}

Which are true? (Choose all that apply.)

A. The class Tablet will NOT compile

B. The interface Gadget will NOT compile

C. The output will be plug in show book

D. The abstract class Electronic will NOT compile

E. The class Tablet CANNOT both extend and implement

**26.** Given that the Integer class is in the java.lang package, and given:

1. // insert code here

2. class StatTest {

3. public static void main(String[] args) {

4. System.out.println(Integer.MAX\_VALUE);

5. }

6. }

Which, inserted independently at line 1, compiles? (Choose all that apply.)

A. import static java.lang;

B. import static java.lang.Integer;

C. import static java.lang.Integer.\*;

D. static import java.lang.Integer.\*;

E. import static java.lang.Integer.MAX\_VALUE;

F. None of the above statements are valid import syntax