Unit\_Test 7

Topic: Basics of Java.( Final assessment)

Max Marks: 50

Duration: 1 hr

1.

Which two cause a compiler error? (Choose two)

A. float[] = new float(3);

B. float f2[] = new float[];

C. float[] f1 = new float[3];

D. float f3[] = new float[3];

E. float f5[] = { 1.0f, 2.0f, 2.0f };

F. float f4[] = new float[] { 1.0f. 2.0f. 3.0f};

2. int i =1,j =10;

12. do {

13. if(i++> --j) {

14. continue;

15. }

16. } while (i <5);

17. System.out.println(“i = “ +i+ “and j = “+j);

What is the result?

A. i = 6 and j = 5

B. i = 5 and j = 5

C. i = 6 and j = 5

D. i = 5 and j = 6

E. i = 6 and j = 6

3.Which of the following are compiling without warning or error?

a) float f=1.3;

b) char c="a";

c) byte b=257;

d) boolean b=null;

e) int i=10;

4. What is the output for the below code ?  
public class A {  
public A(){  
System.out.println("A");  
}  
public A(int i){  
this();  
System.out.println(i);  
}  
}  
public class B extends A{  
public B (){  
System.out.println("B");  
}  
public B (int i){  
this();  
System.out.println(i+3);  
}  
}  
public class Test{  
public static void main (String[] args){  
new B(5);  
}  
}

A) A B 8

B) A 5 B 8

C) A B 5

D) B 8 A 5

5. Which of the following are valid statements?

a) System.out.println(5+4);

b) int i=2+'3';

c) String s="one"+'Two';

d) byte b=255;

6. Which of the following statements are true?

a) An interface can only contain method and not variables.

b) Interfaces cannot have constructors.

c) A class may extend only one other class and implement only one interface.

d) Interfaces are the Java approach to addressing its lack of multiple inheritance, but require implementing classes to create the functionality of the Interfaces.

7

Is this legal ?

class ExceptionA extends Exception {}

class ExceptionB extends ExceptionA {}

public class Test{

void thrower() throws ExceptionA

{ throw new ExceptionA(); }

public static void main(String[] args){

Test t = new Test(); try{t.thrower();} catch(ExceptionB e) {} } }

a) Yes b) No

8. Which of the following statements are true?

a) A byte can represent between -128 to 127.

b) A byte can represent between -127 to 128.

c) A byte can represent between -256 to 256.

d) A char can represent between -2x2 pow 16 2 x2 pow 16 - 1.

9. Which of the following statements are true?

a) If a class has any abstract methods it must be declared abstract itself.

b) All methods in an abstract class must be declared as abstract.

c) When applied to a class, the final modifier means it cannot be sub-classed.

d) transient and volatile are Java modifiers.

10. Which of the following statements are true?

a) A static methods do not have access to the implicit variable called this.

b) A static method may be called without creating an instance of its class.

c) A static method may not be overridden to be non-static.

d) A static method may not be overloaded.

11. Which of the following are the methods of Runnable interface.

a) run()

b) start()

c) wait()

d) join()

12

Given the following,

1. public class CommandArgs {

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

3. String s1 = args[1];

4. String s2 = args[2];

5. String s3 = args[3];

6. String s4 = args[4];

7. System.out.print(" args[2] = " + s2);

8. }

1. }

and the command-line invocation,

java CommandArgs 1 2 3 4

What is the result?

A. args[2] = 2

B. args[2] = 3

C. args[2] = null

D. args[2] = 1

E. Compilation fails

F. An exception is thrown at runtime

13

Given that Thing is a class, how many objects and how many reference variables are created by the following code?

Thing item, stuff;

item = new Thing();

Thing entity = new Thing();

Select the two correct answers.

1. One object is created.
2. Two objects are created.
3. Three objects are created.
4. One reference variable is created.
5. Two reference variables are created.
6. Three reference variables are created

14

What is the output for the below code?  
public class Test {  
public static void printValue(int i, int j, int k){  
System.out.println("int");  
}  
public static void printValue(byte b){  
System.out.println("long");  
}  
public static void main(String args[]) {  
byte b = 9;  
printValue(b,b,b);  
}  
}

15

1. abstract class A {

2. abstract short m1() ;

3. short m2() { return (short) 420; }

4. }

5.

6. abstract class B extends A {

7. // missing code ?

8. short m1() { return (short) 42; }

9. }

which three of the following statements are true? (Choose three.)

A. The code will compile with no changes.

B. Class B must either make an abstract declaration of method m2() or implement

method m2() to allow the code to compile.

C. It is legal, but not required, for class B to either make an abstract declaration of method

m2() or implement method m2() for the code to compile.

D. As long as line 8 exists, class A must declare method m1() in some way.

E. If line 6 were replaced with ‘class B extends A {‘ the code would compile.

F. If class A was not abstract and method m1() on line 2 was implemented, the

code would not compile.

16

Which two of the following are legal declarations for nonnested classes and interfaces?

(Choose two.)

A. final abstract class Test {}

B. public static interface Test {}

C. final public class Test {}

D. protected abstract class Test {}

E. protected interface Test {}

F. abstract public class Test {}

17

Given the following,

1. interface DoMath {

2. double getArea(int rad); }

3.

4. interface MathPlus {

5. double getVol(int b, int h); }

6.

7.

8.

which two code fragments inserted at lines 7 and 8 will compile? (Choose two.)

A. class AllMath extends DoMath {

double getArea(int r); }

B. interface AllMath implements MathPlus {

double getVol(int x, int y); }

C. interface AllMath extends DoMath {

float getAvg(int h, int l); }

D. class AllMath implements MathPlus {

double getArea(int rad); }

E. abstract class AllMath implements DoMath, MathPlus {

public double getArea(int rad) { return rad \* rad \* 3.14; } }

18

Which three are valid method signatures in an interface? (Choose three.)

A. private int getArea();

B. public float getVol(float x);

C. public void main(String [] args);

D. public static void main(String [] args);

E. boolean setFlag(Boolean [] test []);

19

Given the following,

1. interface Base {

2. boolean m1 ();

3. byte m2(short s);

4. }

which two code fragments will compile? (Choose two.)

A. interface Base2 implements Base {}

B. abstract class Class2 extends Base {

public boolean m1() { return true; } }

C. abstract class Class2 implements Base { }

D. abstract class Class2 implements Base {

public boolean m1() { return (7 > 4); } }

E. class Class2 implements Base {

boolean m1() { return false; }

byte m2(short s) { return 42; } }

20

Given the following,

1. import java.awt.\*;

2. class Ticker extends Component {

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

4. Ticker t = new Ticker();

5.

6. }

7. }

which two of the following statements, inserted independently, could legally be inserted into

line 5 of this code? (Choose two.)

A. boolean test = (Component instanceof t);

B. boolean test = (t instanceof Ticker);

C. boolean test = t.instanceof(Ticker);

D. boolean test = (t instanceof Component);

E. boolean test = t.instanceof(Object);

F. boolean test = (t instanceof String);

21

1. class PassS {

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

3. PassS p = new PassS();

4. p.start();

5. }

6.

7. void start() {

8. String s1 = "slip";

9. String s2 = fix(s1);

10. System.out.println(s1 + " " + s2);

11. }

12.

13. String fix(String s1) {

14. s1 = s1 + "stream";

15. System.out.print(s1 + " ");

16. return "stream";

17. }

18. }

what is the result?

A. slip stream

B. slipstream stream

C. stream slip stream

D. slipstream slip stream

E. Compilation fails

F. An exception is thrown at runtime

22

1. class Two {

2. byte x;

3. }

4.

5. class PassO {

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

7. PassO p = new PassO();

8. p.start();

9. }

10.

11. void start() {

12. Two t = new Two();

13. System.out.print(t.x + " ");

14. Two t2 = fix(t);

15. System.out.println(t.x + " " + t2.x);

16. }

17.

18. Two fix(Two tt) {

19. tt.x = 42;

20. return tt;

21. }

22. }

what is the result?

A. null null 42

B. 0 0 42

C. 0 42 42

D. 0 0 0

E. Compilation fails

F. An exception is thrown at runtime

23

Given the following,

1. public class Switch2 {

2. final static short x = 2;

3. public static int y = 0;

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

5. for (int z=0; z < 3; z++) {

6. switch (z) {

7. case y: System.out.print("0 ");

8. case x-1: System.out.print("1 ");

9. case x: System.out.print("2 ");

10. }

11. }

12. }

13. }

what is the result?

A. 0 1 2

B. 0 1 2 1 2 2

C. Compilation fails at line 7.

D. Compilation fails at line 8.

E. Compilation fails at line 9.

F. An exception is thrown at runtime.

24

Given the following,

1. import java.io.\*;

2. public class MyProgram {

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

4. FileOutputStream out = null;

5. try {

6. out = new FileOutputStream("test.txt");

7. out.write(122);

8. }

9. catch(IOException io) {

10. System.out.println("IO Error.");

11. }

12. finally {

13. out.close();

14. }

15. }

16. }

and given that all methods of class FileOutputStream, including close(), throw an

IOException, which of these is true? (Choose one.)

A. This program will compile successfully.

B. This program fails to compile due to an error at line 4.

C. This program fails to compile due to an error at line 6.

D. This program fails to compile due to an error at line 9.

E. This program fails to compile due to an error at line 13.

25

Given the following,

class A {

public void baz() {

System.out.println("A");

}

}

public class B extends A {

public static void main(String [] args) {

A a = new B();

a.baz();

}

void baz() {

System.out.println("B");

}

}

what is the result?

A. A

B. B

C. Compilation fails.

D. An exception is thrown at runtime.

26

Given the following,

14. long test( int x, float y) {

15.

16. }

which two of the following lines, inserted independently, at line 15 would not compile?

(Choose two.)

A. return x;

B. return (long) x / y;

C. return (long) y;

D. return (int) 3.14d;

E. return ( y / x );

F. return x / 7;

27

Given the following,

1. import java.util.\*;

2. class Ro {

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

4. Ro r = new Ro();

5. Object o = r.test();

6. }

7.

8. Object test() {

9.

10.

11. }

12. }

which two of the following code fragments inserted at lines 9/10 will not compile?

(Choose two.)

A. char [ ][ ] c = new char [2][2];

return c;

B. return (Object) 7;

C. return (Object) (new int [] {1,2,3} );

D. ArrayList a = new ArrayList();

return a;

E. return (Object) "test";

F. return (Float) 4.3;

28

Which class does not override the equals() and hashCode() methods, inheriting them

directly from class Object?

A. java.lang.String

B. java.lang.Double

C. java.lang.StringBuffer

D. java.lang.Character

E. java.lang.Integer

29

Given the following,

1. public class X {

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

3. X x = new X();

4. X x2 = m1(x);

5. X x4 = new X();

6. x2 = x4;

7. doComplexStuff();

8. }

9. static X m1(X mx) {

10. mx = new X();

11. return mx;

12. }

13. }

After line 6 runs. how many objects are eligible for garbage collection?

A. 0

B. 1

C. 2

D. 3

E. 4

30

Which two are true about a method-local inner class?

A. It must be marked final.

B. It can be marked abstract.

C. It can be marked public.

D. It can be marked static.

E. It can access private members of the enclosing class.

31

**7.** Which is true about an anonymous inner class?

A. It can extend exactly one class and implement exactly one interface.

B. It can extend exactly one class and can implement multiple interfaces.

C. It can extend exactly one class or implement exactly one interface.

D. It can implement multiple interfaces regardless of whether it also extends a class.

E. It can implement multiple interfaces if it does not extend a class.

32

Given the following,

public class SyncTest {

public static void main (String [] args) {

Thread t = new Thread() {

Foo f = new Foo();

public void run() {

f.increase(20);

}

};

t.start();

}

}

class Foo {

private int data = 23;

public void increase(int amt) {

int x = data;

data = x + amt;

}

}

and assuming that data must be protected from corruption, what—if anything—can you *add*

to the preceding code to ensure the integrity of data?

A. Synchronize the run method.

B. Wrap a synchronize(*this*) around the call to f.increase().

C. The existing code will not compile.

D. The existing code will cause a runtime exception.

E. Put in a wait() call prior to invoking the increase() method.

F. Synchronize the increase() method

33

How many of the following are legal method declarations?

1 – protected abstract void m1();

2 – static final void m1(){}

3 – transient private native void m1() {}

4 – synchronized public final void m1() {}

5 – private native void m1();

6 – static final synchronized protected void m1() {}

A. 1

B. 2

C. 3

D. 4

E. 5

F. All of them

35

Given the following,

1. import java.util.\*;

2. public class NewTreeSet2 extends NewTreeSet {

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

4. NewTreeSet2 t = new NewTreeSet2();

5. t.count();

6. }

7. }

8. protected class NewTreeSet {

9. void count() {

10. for (int x = 0; x < 7; x++,x++ ) {

11. System.out.print(" " + x);

12. }

13. }

14. }

what is the result?

A. 0 2 4

B. 0 2 4 6

C. Compilation fails at line 4

D. Compilation fails at line 5

E. Compilation fails at line 8

F. Compilation fails at line 10

36

Given the following,

1. interface DoMath {

2. double getArea(int rad); }

3.

4. interface MathPlus {

5. double getVol(int b, int h); }

6.

7.

8.

which two code fragments inserted at lines 7 and 8 will compile? (Choose two.)

A. class AllMath extends DoMath {

double getArea(int r); }

B. interface AllMath implements MathPlus {

double getVol(int x, int y); }

C. interface AllMath extends DoMath {

float getAvg(int h, int l); }

D. class AllMath implements MathPlus {

double getArea(int rad); }

E. abstract class AllMath implements DoMath, MathPlus {

public double getArea(int rad) { return rad \* rad \* 3.14; } }

37

Given the following,

1. interface Base {

2. boolean m1 ();

3. byte m2(short s);

4. }

which two code fragments will compile? (Choose two.)

A. interface Base2 implements Base {}

B. abstract class Class2 extends Base {

public boolean m1() { return true; } }

C. abstract class Class2 implements Base { }

D. abstract class Class2 implements Base {

public boolean m1() { return (7 > 4); } }

E. class Class2 implements Base {

boolean m1() { return false; }

byte m2(short s) { return 42; } }

II Study the following code and guess the output:

38 public class Sample {

Sample()

{

System.out.println("sample");

}

public static void main(String[] args) {

new Sample();

}

}

39 public class Sample {

void Sample()

{

System.out.println("sample");

}

public static void main(String[] args) {

new Sample();

}

40 public class Sample {

Sample(String name)

{

System.out.println("sample");

}

public static void main(String[] args) {

new Sample();

}

41 public class Sample {

static void m1(int x){

x+=10;

System.out.println(x);

}

public static void main(String[] args) {

int x=10;

m1(x);

System.out.println(x);

}

}

42 public class Sample {

int x;

static void m1(Sample s1){

s1.x+=10;

}

public static void main(String[] args) {

Sample s1=new Sample();

s1.x=12;

m1(s1);

System.out.println(s1.x);

}

}

43 public class Sample {

int x;

static void m1(Sample s1){

s1=new Sample();

System.out.println(s1.x);

}

public static void main(String[] args) {

Sample s1=new Sample();

s1.x=12;

m1(s1);

System.out.println(s1.x);

}

}

44

public class Number {

private int x;

public Number()

{

x++;

}

public static void main(String[] args) {

Number n1=new Number();

Number n2=new Number();

Number n3=new Number();

System.out.println(n1.x);

System.out.println(n2.x);

System.out.println(n3.x);

}

}

45

public class Number

{

public static void add(int x,int y)

{

System.out.println("int sum"+(x+y));

}

public static double add(double f1,double f2)

{

return f1+f2;

}

public static void main(String[] args) {

int sum=(int)add(12,34);

System.out.println(add(35.0,67.0));

}

}

46

In the code:

ArrayList<**int**> al=**new** ArrayList<**int**>();

al.add(12);

System.out.println(12);

a) prints 12

b) compile time error

c) when <int> is removed compiles fine

d) b and c are right

47

ArrayList al=**new** ArrayList();

al.add(12);

al.add(4.5);

al.add("hello");

String o1=al.get(3); //line1

System.*out*.println(o1); //line2

1. Complains that dissimilar elements cannot be added
2. Compilation error in line1
3. Prints hello in line2
4. Gives IndexOutOfBoundsException

48 3 marks

Change the following tokens according to naming conventions.

1. boolean addemployee(employee e){ }
2. final pi=3.145;
3. class customerdetails{ }
4. Integer numberofemployees;
5. time addtimeobjects(time t2){ }
6. String customerdetails(){ }