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SCJP / OCPJP

Question Bank

Chapter 11 : java.io package and Serialization



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11. java.io package and Serialization

Q: 01 Click the Task button.

Chain these constructors to create objects to read from a file named "in" and to write to a file named "out."

```
reader = [Place here] [Place here] "in" );  
writer = [Place here] [Place here] [Place here] "out" );
```

Constructors

new FileReader()	new PrintReader()	new BufferedReader()
new BufferedWriter()	new FileWriter()	new PrintWriter()

Solution:

```
reader = new BufferedReader(new FileReader("in");  
writer = new PrintWriter (new BufferedWriter (new FileWriter("out")));
```

Q: 02 Given:

```
12. import java.io.*;  
13. public class Forest implements Serializable {  
14. private Tree tree = new Tree();  
15. public static void main(String [] args) {  
16. Forest f = new Forest();  
17. try {  
18. FileOutputStream fs = new FileOutputStream("Forest.ser");  
19. ObjectOutputStream os = new ObjectOutputStream(fs);  
20. os.writeObject(f); os.close();  
21. } catch (Exception ex) { ex.printStackTrace(); }  
22. } }  
23.  
24. class Tree { }
```

What is the result?

- A. Compilation fails.
- B. An exception is thrown at runtime.
- C. An instance of Forest is serialized.
- D. An instance of Forest and an instance of Tree are both serialized.

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Answer: B

Q: 03 Click the Task button.

Place the code fragments into position to use a `BufferedReader` to read in an entire text file.

```
class PrintFile {
    public static void main(String[] args){
        BufferedReader buffReader = null;
        //more code here to initialize buffReader
        try {
            String temp;

            while(   ) {
                System.out.println(temp);
            }
        } catch (  ) {
            e.printStackTrace();
        }
    }
}
```

Code Fragments

Done

Solution:

1. `(temp = buffReader.readLine())`
2. `!= null`
3. `(IOException e){`

Q: 04 Assuming that the `serializeBanana()` and the `deserializeBanana()` methods will correctly use Java serialization and given:

13. `import java.io.*;`
14. `class Food implements Serializable {int good = 3;}`
15. `class Fruit extends Food {int juice = 5;}`
16. `public class Banana extends Fruit {`
17. `int yellow = 4;`
18. `public static void main(String [] args) {`
19. `Banana b = new Banana(); Banana b2 = new Banana();`
20. `b.serializeBanana(b); // assume correct serialization`
21. `b2 = b.deserializeBanana(); // assume correct`
22. `System.out.println("restore "+b2.yellow+ b2.juice+b2.good);`
24. `}`
25. `// more Banana methods go here 50. }`

What is the result?

- A. restore 400 B. restore 403
C. restore 453 D. Compilation fails.
E. An exception is thrown at runtime.

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Answer: C

Q: 05 Which three statements concerning the use of the java.io.Serializable interface are true? (Choose three.)

- A. Objects from classes that use aggregation cannot be serialized.
- B. An object serialized on one JVM can be successfully deserialized on a different JVM.
- C. The values in fields with the volatile modifier will NOT survive serialization and deserialization.
- D. The values in fields with the transient modifier will NOT survive serialization and deserialization.
- E. It is legal to serialize an object of a type that has a supertype that does NOT implement java.io.Serializable.

Answer: B, D, E

Q: 06 Assuming that the serializeBanana2() and the deserializeBanana2() methods will correctly use Java serialization and given:

```
13. import java.io.*;
14. class Food {Food() { System.out.print("1"); } }
15. class Fruit extends Food implements Serializable {
16. Fruit() { System.out.print("2"); } }
17. public class Banana2 extends Fruit { int size = 42;
18. public static void main(String [] args) {
19. Banana2 b = new Banana2();
20. b.serializeBanana2(b); // assume correct serialization
21. b = b.deserializeBanana2(b); // assume correct
22. System.out.println(" restored " + b.size + " "); }
23. // more Banana2 methods
24. }
```

What is the result?

- A. Compilation fails.
- B. 1 restored 42
- C. 12 restored 42
- D. 121 restored 42
- E. 1212 restored 42
- F. An exception is thrown at runtime.

Answer: D

Q: 7 When comparing java.io.BufferedWriter to java.io.FileWriter, which capability exists as a method in only one of the two?

- A. closing the stream
- B. flushing the stream
- C. writing to the stream
- D. marking a location in the stream
- E. writing a line separator to the stream

Answer: E

Question: 8

Given:

```
10. class MakeFile {
11. public static void main(String[] args) {
12. try {
13. File directory = new File("d");
```

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```
14. File file = new File(directory,"f");
15. if(!file.exists()) {
16. file.createNewFile();
17. }
18. } catch (IOException e) {
19. e.printStackTrace
20. }
21. }
22. }
```

The current directory does NOT contain a directory named "d."

Which three are true? (Choose three.)

- A. Line 16 is never executed.
- B. An exception is thrown at runtime.
- C. Line 13 creates a File object named "d."
- D. Line 14 creates a File object named "f."
- E. Line 13 creates a directory named "d" in the file system.
- F. Line 16 creates a directory named "d" and a file "f" within it in the file system.
- G. Line 14 creates a file named "f" inside of the directory named "d" in the file system.

Answer: BCD

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Q: 09 Click the Task button.

The `doesFileExist` method takes an array of directory names representing a path from the root filesystem and a file name. The method returns `true` if the file exists, `false` if it does not.

Place the code fragments in position to complete this method.

```
public static boolean doesFileExist(String[] directories, String filename) {
```

Place here

```
for ( String dir : directories ) {
```

Place here

```
}
```

Place here

Place here

```
}
```

Code Fragments

`path = path.getSubdirectory(dir);`

`return ! file.isNew();`

`return (file != null);`

`String path = "";`

`path = path.getFile(filename);`

`File path = new File("");`

`return file.exists();`

`return path.isFile();`

`File file = new File(path, filename);`

`path = new File(path, dir);`

`File path = new File(File.separator);`

`path = path + File.separator + dir;`

Solution:

1. `String path=""`;
2. `path=path+File.separator+dir;`
3. `File file=new File(path,filename);`
4. `return file.exists();`

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Q:10 Click the Exhibit button.

Which code, inserted at line 14, will allow this class to correctly serialize and deserialize?

```
1. import java.io.*;
2. public class Foo implements Serializable
{
3.     public int x, y;
4.     public Foo( int x, int y ) { this.x =
x; this.y = y; }
5.
6.     private void writeObject(
ObjectOutputStream s )
7.         throws IOException {
8.         s.writeInt(x); s.writeInt(y) ;
9.     }
10.
11.    private void readObject(
ObjectInputStream s )
12.        throws IOException,
ClassNotFoundException {
13.
14.        // insert code here
15.
16.    }
17. }
```

- A. s.defaultReadObject();
- B. this = s.defaultReadObject();
- C. y = s.readInt(); x = s.readInt();
- D. x = s.readInt(); y = s.readInt();

Answer: D

Question: 11

Given:

```
10. public class Foo implements java.io.Serializable {
11. private int x;
12. public int getX() { return x; }
12. public Foo(int x){this.x=x; }
13. private void writeObject( ObjectOutputStream s)
14. throws IOException {
15. // insert code here
16. }
17. }
```

Which code fragment, inserted at line 15, will allow Foo objects to be correctly serialized and deserialized?

- A. s.writeInt(x);
- B. s.serialize(x);
- C. s.writeObject(x);

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D. s.defaultWriteObject();

Answer: D

12 Click the Task button.

Place the Fragments into the program, so that the program will get lines from a text file, display them, and then close all the resources.

Program

```
import java.io.*

public class ReadFile {
    public static void main(String [] args) {
        try {
            File ? = new File("MyText.txt");
            ? = new ? (x1);
            ? x4 = new ? (x2);
            String x3 = null;
            while (( x3 = ? . ? ()) != null) {
                System.out.println(x3);
            } ? . ? ();
        } catch (Exception ex) {
            ex.printStackTrace();
        }
    }
}
```

Code Fragments

BufferedReader
StreamReader
FileReader
readLine
readLn
read
closeFile
close
x1 x2
x3 x4

Done

Solution:

```
import java.io.*;
public class ReadFile{
    public static void main(String s[ ]){
        try {
            File x1=new File("MyText.txt");
            FileReader x2=new FileReader(x1);
            BufferedReader x4=new BufferedReader(x2);
            String s3=null;
            while((x3 = x4.readLine() ) != null ) {
                System.out.println(x3);
            }x4.close();
        }catch(Exception e){
            e.printStackTrace();
        }
    }
}
```

Question: 13

Which capability exists only in java.io.FileWriter?

- A. Closing an open stream.
- B. Flushing an open stream.
- C. Writing to an open stream.

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D. Writing a line separator to an open stream.

Answer: D

Question: 14

Given that the current directory is empty, and that the user has read and write permissions, and the following:

```
11. import java.io.*;
12. public class DOS {
13. public static void main(String[] args) {
14. File dir = new File("dir");
15. dir.mkdir();
16. File f1 = new File(dir, "f1.txt");
17. try {
18. f1.createNewFile();
19. } catch (IOException e) { ; }
20. File newDir = new File("newDir");
21. dir.renameTo(newDir);
22. }
23. }
```

Which statement is true?

- A. Compilation fails.
- B. The file system has a new empty directory named dir.
- C. The file system has a new empty directory named newDir.
- D. The file system has a directory named dir, containing a file f1.txt.
- E. The file system has a directory named newDir, containing a file f1.txt.

Answer: E

Question: 15

Given:

```
1. public class LineUp {
2. public static void main(String[] args) {
3. double d = 12.345;
4. // insert code here
5. }
6. }
```

Which code fragment, inserted at line 4, produces the output | 12.345|?

- A. System.out.printf("|% 7d| \n", d);
- B. System.out.printf("|% 7f| \n", d);
- C. System.out.printf("|% 3.7d| \n", d);
- D. System.out.printf("|% 3.7f| \n", d);
- E. System.out.printf("|% 7.3d| \n", d);
- F. System.out.printf("|% 7.3f| \n", d);

Answer: F

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Question: 16

Given:

```
5. import java.io.*;
6. public class Talk {
7.     public static void main(String[] args) {
8.         Console c = new Console();
9.         String pw;
10.        System.out.print("password: ");
11.        pw = c.readLine();
12.        System.out.println("got " + pw);
13.    }
14. }
```

If the user types the password aiko when prompted, what is the result?

- A. password:
got
- B. password:
got aiko
- C. password: aiko
got aiko
- D. An exception is thrown at runtime.
- E. Compilation fails due to an error on line 8.

Answer: E

Question: 17

Given that the current directory is empty, and that the user has read and write privileges to the current directory, and the following:

```
1. import java.io.*;
2. public class Maker {
3.     public static void main(String[] args) {
4.         File dir = new File("dir");
5.         File f = new File(dir, "f");
6.     }
7. }
```

Which statement is true?

- A. Compilation fails.
- B. Nothing is added to the file system.
- C. Only a new file is created on the file system.
- D. Only a new directory is created on the file system.
- E. Both a new file and a new directory are created on the file system.

Answer: B

Question: 18

Given:

```
12. String csv = "Sue,5,true,3";
13. Scanner scanner = new Scanner( csv );
```

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```
14. scanner.useDelimiter(",");
15. int age = scanner.nextInt();
```

What is the result?

- A. Compilation fails.
- B. After line 15, the value of age is 5.
- C. After line 15, the value of age is 3.
- D. An exception is thrown at runtime.

Answer: D

Question: 19

Given that `c` is a reference to a valid `java.io.Console` object, which two code fragments read a line of text from the console? (Choose two.)

- A. `String s = c.readLine();`
- B. `char[] c = c.readLine();`
- C. `String s = c.readConsole();`
- D. `char[] c = c.readConsole();`
- E. `String s = c.readLine("%s", "name ");`
- F. `char[] c = c.readLine("%s", "name ");`

Answer: A,E

Question: 20

Given that `c` is a reference to a valid `java.io.Console` object, and:

- 11. `String pw = c.readPassword("%s", "pw: ");`
- 12. `System.out.println("got " + pw);`
- 13. `String name = c.readLine("%s", "name: ");`
- 14. `System.out.println(" got ", name);`

If the user types `fido` when prompted for a password, and then responds `bob` when prompted for a name, what is the result?

- A. `pw: got fido name: bob got bob`
- B. `pw: fido got fido name: bob got bob`
- C. `pw: got fido name: bob got bob`
- D. `pw: fido got fido name: bob got bob`
- E. Compilation fails.
- F. An exception is thrown at runtime.

Answer: E

Question: 21

Given the following six method names:

```
addListener
addMouseListener
setMouseListener
deleteMouseListener
removeMouseListener
registerMouseListener
```

How many of these method names follow JavaBean Listener naming rules?

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

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Answer: B

Question: 22

Click the Task button.

Drag and Drop

Place the code fragments into position to produce the output:
true true false

Code

```
Scanner scanner = new Scanner( "One,5,true,3,true,6,7,false");  
scanner.useDelimiter(',');  
while (  ) {  
    if (  ) {  
        System.out.print(  + " ");  
    } else  ;  
}
```

Code Fragments

Answer:



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Drag and Drop

Place the code fragments into position to produce the output:
true true false

Code

```
Scanner scanner = new Scanner( "One,5,true,3,true,6,7,false");  
scanner.useDelimiter(",");  
  
while ( scanner.hasNext() ) {  
    if ( scanner.hasNextBoolean() ) {  
        System.out.print( scanner.nextBoolean() + " ");  
    } else scanner.next();  
}
```

Code Fragments

scanner.hasNextBoolean()

scanner.nextBoolean()

scanner.next()

scanner.hasNext()

Done



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