

Exam 804 – Sample Questions

1. Given:

```
class MySort implements Comparator<Integer> {  
    public int compare(Integer x, Integer y) {  
        return y.compareTo(x);  
    }  
}
```

And the code fragment:

```
Integer[] primes = {2, 7, 5, 3};  
MySort ms = new MySort();  
Arrays.sort(primes, ms);  
for (Integer p2 : primes) {  
    System.out.print(p2 + " ");  
}
```

What is the result?

- A) 2 3 5 7
- B) 2 7 5 3
- C) 7 5 3 2
- D) Compilation fails.

2. Given:

```
class Class1 { String v1; }  
class Class2 {  
    Class1 c1;  
    String v2;  
}  
  
class Class3 {  
    Class2 c1;  
    String v3;  
}
```

Which three options correctly describe the relationship between the classes?

- A) Class2 has-a v3
- B) Class1 has-a v2
- C) Class2 has-a v2
- D) Class3 has-a v1
- E) Class2 has-a Class3
- F) Class2 has-a Class1

3. Given:

```
class MyKeys {
    Integer key;
    MyKeys(Integer k) {
        key = k;
    }
    public boolean equals(Object o) {
        return ((MyKeys) o).key == this.key;
    }
}
```

And this code snippet:

```
Map m = new HashMap();
MyKeys m1 = new MyKeys(1);
MyKeys m2 = new MyKeys(2);
MyKeys m3 = new MyKeys(1);
MyKeys m4 = new MyKeys(new Integer(2));
m.put(m1, "car");
m.put(m2, "boat");
m.put(m3, "plane");
m.put(m4, "bus");
System.out.print(m.size());
```

What is the result?

- A) 2
- B) 3
- C) 4
- D) Compilation fails.

4. Given:

```
import java.util.*;
public class MyScan {
    public static void main(String[] args) {
        String in = "1 a 10 . 100 1000";
        Scanner s = new Scanner(in);
        int accum = 0;
        for (int x = 0; x < 4; x++) {
            accum += s.nextInt();
        }
        System.out.println(accum);
    }
}
```

What is the result?

- A) 11
- B) 111
- C) 1111
- D) An exception is thrown at runtime.

5. Given:

```
public class Truthy {  
    public static void main(String[] args) {  
        int x = 7;  
        assert (x == 6) ? "x == 6" : "x != 6";  
    }  
}
```

What is the result if you try to compile Truthy.java and then run it with assertions enabled?

- A) Truthy.java does NOT compile.
- B) Truthy.java compiles and the output is `x != 6`.
- C) Truthy.java compiles and an `AssertionError` is thrown with no additional output.
- D) Truthy.java compiles and an `AssertionError` is thrown with `x != 6` as additional output.

6. Given the code fragment:

```
try {  
    // assume "conn" is a valid Connection object  
    // assume a valid Statement object is created  
    // assume rollback invocations will be valid  
  
    // use SQL to add 10 to a checking account  
    Savepoint s1 = conn.setSavePoint();  
    // use SQL to add 100 to the same checking account  
  
    Savepoint s2 = conn.setSavePoint();  
    // use SQL to add 1000 to the same checking account  
    // insert valid rollback method invocation here  
} catch (Exception e) { }
```

Which two statements are true?

- A) If `conn.rollback(s1)` is inserted, account will be incremented by 10.
- B) If `conn.rollback(s1)` is inserted, account will be incremented by 1010.
- C) If `conn.rollback(s2)` is inserted, account will be incremented by 100.
- D) If `conn.rollback(s2)` is inserted, account will be incremented by 110.
- E) If `conn.rollback(s2)` is inserted, account will be incremented by 1110.

7. Given:

```
public class Bees {
    public static void main(String[] args) {
        try {
            new Bees().go();
        } catch (Exception e) {
            System.out.println("thrown to main");
        }
    }
    synchronized void go() throws InterruptedException {
        Thread t1 = new Thread();
        t1.start();
        System.out.print("1 ");
        t1.wait(5000);
        System.out.print("2 ");
    }
}
```

What is the result?

- A) The program prints 1 then 2 after 5 seconds
- B) The program prints: 1 thrown to main
- C) The program prints: 1 2 thrown to main
- D) The program prints:1 then t1 waits for its notification.

8. Given:

```
import java.text.*;
public class Align {
    public static void main(String[] args) throws ParseException {
        String[] sa = {"111.234", "222.5678"};
        NumberFormat nf = NumberFormat.getInstance();
        nf.setMaximumFractionDigits(3);
        for (String s : sa) {
            System.out.println(nf.parse(s));
        }
    }
}
```

What is the result?

- A)
111.234
222.567
- B)
111.234
222.568
- C)
111.234
222.5678
- D) An exception is thrown at runtime.

Answers

1. C
2. C, D, F
3. C
4. D
5. A
6. A, D
7. B
8. C