Question 1

The following grid shows the state of a 2D array:

0	0	
	X	0
	X	X

This grid is created with the following code:

```
char[][] grid = new char[3][3];
grid[1][1] = 'X';
grid[0][0] = 'O';
grid[2][1] = 'X';
grid[0][1] = 'O';
grid[2][2] = 'X';
grid[1][2] = 'O';
```

Which line of code, when inserted in place of //line n1, adds an X into the grid so that the grid contains three consecutive X's?

Options:

A) grid[1][3] = 'X';

B) grid[3][1] = 'X';

C) grid[0][2] = 'X';

D) grid[2][0] = 'X';

E) grid[1][2] = 'X';

Answer:

C

Question 2

Question Type: **MultipleChoice**

Which two class definitions fail to compile?

Options:

A) abstract class A3 {private static int i;public void doStuff(){}public A3(){}}

B) final class A1 {public A1(){}}

C) public class A2 {private static int i;private A2(){}}

D) class A4 {protected static final int i;private void doStuff(){}}

E) final abstract class A5 {protected static int i;void doStuff(){}abstract void doIt();}

Answer:

C, E

Question 3

Question Type: MultipleChoice

Given:

class Test

int a1;

public static void doProduct(int a) {

a = a * a;

)

public static void doString(StringBuilder s) {

```java
        s.append(" " + s);

    }

    public static void main(String[] args) {

        Test item = new Test();

        item.a1 = 11;

        StringBuilder sb = new StringBuilder("Hello");

        Integer i = 10;

        doProduct(i);

        doString(sb);

        doProduct(item.a1);

        System.out.println(i + " " + sb + " " + item.a1);

    }

}
```

What is the result?

Options:

A) 10 Hello Hello 11

B) 10 Hello Hello 121

C) 100 Hello 121

D) 100 Hello Hello 121

E) 10 Hello 11

Answer:

B

Question 4

Question Type: MultipleChoice

Given the code fragment:

```
public static void main(String[] args) {
    int array[] = {10, 20, 30, 40, 50};
    int x = array.lenth;
    /* line n1 */
}
```

Which two code fragments can be independently inserted at line n1 to enable the code to print the elements of the array in reverse order?

Options:

A) while (x > 0) {x--;System.out.print(array[x]);}

B) do {x--;System.out.print(array[x]);} while (x >= 0);

C) while (x >= 0) {System.out.print(array[x]);x--;}

D) do {System.out.print(array[x]);--x;} while (x >= 0);

E) while (x > 0) {System.out.print(array[--x]);}

Answer:

B, E

Question 5

Question Type: MultipleChoice

Given the following class:

```
public class Rectangle {
    private double length;
    private double height;
    private double area;

    public void setLength(double length) {
        this.length = length;
    }
    public void setHeight(double height) {
        this.height = height;
    }
    public void setArea() {
        area = length*height;
    }
}
```

Which two changes would encapsulate this class and ensure that the area field is always equal to length * height whenever the Rectangle class is used?

Options:

A) Call the setArea method at the end of the setHeight method.

B) Call the setArea method at the beginning of the setHeight method.

C) Call the setArea method at the end of the setLength method.

D) Call the setArea method at the beginning of the setLength method.

E) Change the setArea method to private.

F) Change the area field to public.

Answer:

A, E

Question 6

Question Type: **MultipleChoice**

Given the code fragments:

```
class Student {
      String name;
      int age;
}
```

And,

```
4.public class Test {
5.   public static void main(String[] args) {
6.         Student s1 = new Student();
7.         Student s2 = new Student();
8.         Student s3 = new Student();
9.         s1 = s3;
10.        s3 = s2;
11.        s2 = null;
12. }
13.}
```

Which statement is true?

Options:

A) After line 11, three objects are eligible for garbage collection.

B) After line 11, two objects are eligible for garbage collection.

C) After line 11, one object is eligible for garbage collection.

D) After line 11, none of the objects are eligible for garbage collection.

Answer:

C