

Note: Show the workout in the answer script.

Correct the errors (if any) and find the output of the following Java program segments

[1.25X8]

```
Q1. class overload {
    static int x;
    double y;
    void add(int a , int b) {
        x = x+ a + b;
    }
    void add(double c , double d){
        y = c + d;
    }
    overload() {
        this.x = 20;
        this.y = 10.0;
    }
}
class Output {
    public static void main(String args[])
    {
        overload obj = new overload();
        overload obj1 = new overload();
        int a = 2;
        double b = 3.2;
        obj.add(a, a);
        obj1.add(b, b);
        System.out.println(obj.x + " " + obj.y);
        System.out.println(obj1.x + " " + obj1.y);
    }
}
```

**Answer: 24 10.0
24 6.4**

```
Q2. class test {
    int a;
    int b;
    test(int i, int j) {
        a = i;
        b = j;
    }
    void meth(test o) {
        o.a *= 2;
        O.b /= 2;
    }
}
class Output {
    public static void main(String args[])
    {
        test obj = new test(10 , 20);
        obj.meth(obj);
        System.out.println(obj.a + " " + obj.b);
    }
}
```

Answer: 20 10

```
Q3.
class Output {
    public static void main(String args[])
    {
        int a = 1;
        int b = 2;
        int c = 3;
        a |= 4;
        b >>= 1;
        c <<= 1;
        a ^= c;
    }
}
```

```
Q4.
class X2
{
    public X2 x;
    public static void main(String [] args)
    {
        X2 x2 = new X2(); /* Line 6 */
        X2 x3 = new X2(); /* Line 7 */
        x2.x = x3;
        x3.x = x2;
        x2 = new X2();
    }
}
```

<pre> System.out.println(a + " " + b + " " + c); } } </pre> <p>Answer: 3 1 6</p>	<pre> x3 = x2; /* Line 11 */ System.out.println("Garbage Collection"); } </pre> <p>} After line 11 runs how many objects are eligible for garbage collection?</p> <p>Answer: 2</p>
<p>Q5.</p> <pre> class Passarray { public static void main(String args[]) { int [] data = {6,4,8,2,1}; printIntArray(data); for(int i= 1; i<data.length; i++) if(data[i-1] > data[i]) swap(data, i-1, i); printIntArray(data); } public static void swap(int[] arr, int x, int y) { int temp = arr[x];arr[x] = arr[y]; arr[y] = temp; } public static void printIntArray(int [] arr) { for(int i=0;i<arr.length;i++) System.out.print(arr[i]+" "); System.out.println(); } } </pre> <p>Answer: 6 4 8 2 1 4 6 2 1 8</p>	<p>Q6.</p> <pre> class A { public void display() { System.out.println("A"); } } class B extends A { public void display() { System.out.println("B"); } } class Output { public static void main(String args[]) { A obj1 = new A(); B obj2 = new B(); A r; r = obj1; r.display(); r = obj2; r.display(); } } </pre> <p>Answer: A B</p>
<p>Q7.</p> <pre> class box { int width; int height; int length; int volume; void finalize() { volume = width*height*length; System.out.println(volume); } protected void volume() { volume = width*height*length; System.out.println(volume); } } class Output { public static void main(String args[]) { box obj = new box(); obj.volume(); } } </pre>	<p>Q8.</p> <pre> public class If2 { static boolean b1, b2; public static void main(String [] args) { int x = 0; if (!b1) /* Line 7 */ { if (!b2) /* Line 9 */ { b1 = true; x++; if (5 > 6) { x++; } } if (!b1) x = x + 10; else if (b2 = true) /* Line 19 */ x = x + 100; else if (b1 b2) /* Line 21 */ </pre>

Answer: Here there is no guarantee that finalize() method will be called or not before GC. Hence

Answer may be **0.0**

Or **0.0**

0.0

finalize() should be declared as protected

```
        x = x + 1000;
    }
    }
    System.out.println(x);
}
} Answer: 101
```