

1. The Point class and the main method is as follows. Implement the ColorPoint class and the Point3D class so that the following console window can be shown.

```
package ch06.sec01;

public class Point {
    private int x, y;
    public Point(int x, int y) { this.x = x; this.y = y; }
    public int getX() { return x; }
    public int getY() { return y; }
    protected void move(int x, int y) { this.x = x; this.y = y; }
}
```

Figure 1: Point class

```
public class PointExample {
    public static void main(String args[]) {
        ColorPoint cp = new ColorPoint(5, 5, "yellow");
        cp.setXY(10, 20);
        cp.setColor("red");
        String str = cp.toString();
        System.out.println(str);

        ColorPoint zeroPoint = new ColorPoint();
        System.out.println(zeroPoint.toString());

        ColorPoint blackPoint = new ColorPoint(5, 5);
        System.out.println(blackPoint.toString());

        Point3D p = new Point3D(1, 2, 3);
        System.out.println(p.toString());

        p.moveUp();
        System.out.println(p.toString());

        p.moveDown();
        System.out.println(p.toString());

        p.move(10, 10);
        System.out.println(p.toString());

        p.move(100, 200, 300);
        System.out.println(p.toString());
    }
}
```

Figure 2: main method

```
The red point at (10, 20)
The black point at (0, 0)
The black point at (5, 5)
The point at (1, 2, 3)
The point at (1, 2, 4)
The point at (1, 2, 3)
The point at (10, 10, 3)
The point at (100, 200, 300)
```

Figure 3: Console window