

```

public class Ball {
    private double x,y,distTraveledX, distTraveledY;
    private static double totDistXAllBalls ;
    private static double totDistYAllBalls ;
    private static double lastX;
    private static double lastY;

    public Ball() {
        x=0;
        y=0;
    }

    public Ball(double newX, double newY) {
        x=newX;
        y=newY;
    }

    public double getX() {
        return x;
    }
    public double getY() {
        return y;
    }
    public double getDistTraveledX() {
        return distTraveledX;
    }
    public double getDistTraveledY() {
        return distTraveledY;
    }

    public void move (double xDisp, double yDisp){
        double tempX,tempY;
        tempX= x + xDisp;
        tempY= y + yDisp;

        if (tempX != lastX || tempY != lastY )
        {
            this.distTraveledX += Math.abs(xDisp);
            totDistXAllBalls+=Math.abs(xDisp);
            this.distTraveledY += Math.abs(yDisp);
            totDistYAllBalls+=Math.abs(yDisp);
            x += xDisp;
            y += yDisp;
            lastX=x;
            lastY=y;
        }
        else {
            System.out.println("The ball in position (" +x+", "+y") cannot move to position
            "+tempX+", "+tempY+"");
        }
    }

    public static double getTotDistXAllBalls (){
        return totDistXAllBalls;
    }

    public static double getTotDistYAllBalls (){
        return totDistYAllBalls;
    }

    public String toString(){
        return "Ball @ (" +x+", "+y+"");
    }
}

```

```
public class TestBall {  
  
    public static void main(String[] args) {  
  
        Ball b1 = new Ball (2,2);  
        b1.move(3,-2);  
        b1.move(2, -7); // (7,-7) 7 9  
  
        Ball b2 = new Ball ();  
        b2.move(7,-7);  
        b2.move(2,4);  
  
        System.out.println("b1:");  
        System.out.println(b1.toString());  
        System.out.println("X: "+b1.getDistTraveledX());  
        System.out.println("Y: "+b1.getDistTraveledY());  
  
        System.out.println("b2:");  
        System.out.println(b2.toString());  
        System.out.println("X: "+b2.getDistTraveledX());  
        System.out.println("Y: "+b2.getDistTraveledY());  
  
        System.out.print("Total All Balls X: ");  
        System.out.println(Ball.getTotDistXAllBalls());  
        System.out.print("Total All Balls Y: ");  
        System.out.println(Ball.getTotDistYAllBalls());  
  
    }  
  
}
```