

Untitled.txt

```
import java.lang.Math;

public class oops {
    public static void main(String[] args) {
        car a = new car("hyunday", "hkm", 2001, 4, 5, 56);
        car b = new car("hyuy", "hk", 1999, 4, 5, 81);
        a.accelerate(54);
        a.move();
        a.move();
        a.move();
        a.move();
        a.move();
        b.move();
        b.move();
        b.move();
        double c = a.time_to_collision(b);
        System.out.printf("%.2f\n", c);
    }
}

class car {
    String make;
    String model;
    int year;
    int x;
    int y;
    int speed;

    public car(String make, String model, int year, int x, int y, int speed) {
        this.make = make;
        this.model = model;
        this.year = year;
        this.x = x;
        this.y = y;
        this.speed = speed;
    }

    public void accelerate(int a) {
        speed += a;
    }

    public void brake(int b) {
        speed -= b;
    }

    public void move() {
        double angle = Math.atan2(y, x);
        x += (speed * Math.cos(angle));
```

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y += (speed * Math.sin(angle));

}

public boolean detect_collision(car a) {
double distance = Math.sqrt(Math.pow((this.x - a.x), 2) + Math.pow((this.y - a.y),
2));
if (distance <= 0.01) {
return true;
}
return false;
}

public Double time_to_collision(car b) {

double relative_speed = this.speed - b.speed;

if (relative_speed <= 0) {
return null;
} else {
double distance = Math.sqrt(Math.pow((this.x - b.x), 2) + Math.pow((this.y - b.y),
2));
double time = distance / relative_speed;
return time;
}
}
}
```