

## gki2CounterClock.java

```
package gobalkrishnan_v_18_06_1995.basic;
```

```
import gobalkrishnan_v_18_06_1995.dimension2.gki2Point;
```

```
public class gki2CounterClock {
```

```
    public static List<gki2Point> sortVerticies(List<gki2Point> points) {
```

```
        // get centroid
```

```
        gki2Point center = findCentroid(points);
```

```
        Collections.sort(points, (a, b) -> {
```

```
            double a1 = (Math.toDegrees(Math.atan2(a.x - center.x, a.y - center.y)) + 360) % 360;
```

```
            double a2 = (Math.toDegrees(Math.atan2(b.x - center.x, b.y - center.y)) + 360) % 360;
```

```
            return (int) (a1 - a2);
```

```
        });
```

```
        return points;
```

```
    }
```

```
    public static gki2Point findCentroid(List<gki2Point> points) {
```

```
        int x = 0;
```

```
        int y = 0;
```

```
        for (gki2Point p : points) {
```

```
            x += p.x;
```

```
            y += p.y;
```

```
        }
```

```
        gki2Point center = new gki2Point();
```

```
        center.x = x / points.size();
```

```
        center.y = y / points.size();
```

gki2CounterClock.java

```
    return center;  
}
```

```
}
```