

## gki3Polygon.java

```
package gobalkrishnan_v_18_06_1995.graphics;

import gobalkrishnan_v_18_06_1995.basic.gkiMergeSort;

public class gki3Polygon {

    public ArrayList<gki3Point> points=new ArrayList<>();
    gkiColor color=new gkiColor(255,150,0,255);

    public void gkiColor(gkiColor c){color=c;}
    public void gki3Point(double x,double y,double z){
        gki3Point p=new gki3Point(x,y,z);
        points.add(p);
    }
    public void gki3Point(gki3Point[] p){
        for(int i=0;i<p.length;i++){
            points.add(p[i]);
        }
    }
    public void gki3Point(ArrayList<gki3Point> p){
        for(int i=0;i<p.size();i++){
            points.add(p.get(i));
        }
    }

    public gki3Point mid(){
        double x=0,y=0,z=0;
        for(int i=0;i<points.size();i++){
            x+=points.get(i).x;
            y+=points.get(i).y;
            z+=points.get(i).z;
```

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```
}
    gki3Point p=new gki3Point(x/((double)points.size(), y/((double)points.size(), z/
(double)points.size()));
    return p;

}

public void process(){
    formline();
}

ArrayList<gki3Line> lines=new ArrayList<>();
public ArrayList<gki3Point> point=new ArrayList<>();
private void formline(){
    lines.removeAll(lines);
    point.removeAll(point);
    for(int i=0,j=1;i<points.size();i++,j++){
        if(j==points.size()){
            j=0;
        }
        gki3Line l=new gki3Line();
        l.sp(points.get(i));
        l.sc(color);
        l.ep(points.get(j));
        l.ec(color);
        l.process();
        for(int k=0;k<l.point.size();k++){
            point.add(l.point.get(k));
        }
        lines.add(l);
    }
    // System.out.println(i+":"+j);
}
```

## gki3Polygon.java

```
}

ysort(point);

//zsort(point);
//System.out.println(point);

}

private void ysort(ArrayList<gki3Point> a){
    gki3Point[] l=new gki3Point[a.size()];
    for(int i=0;i<l.length;i++){
        l[i]=a.get(i);
    }
    gkiMergeSort ysort=new gkiMergeSort();
    ysort.sortYdepthAscending(l);

    tolist(a, l);
}

private void zsort(ArrayList<gki3Point> a){
    gki3Point[] l=new gki3Point[a.size()];
    for(int i=0;i<l.length;i++){
        l[i]=a.get(i);
    }
    gkiMergeSort ysort=new gkiMergeSort();
    ysort.sortZdepthAscending(l);
```

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```
    tolist(a, l);  
}  
  
private void tolist(ArrayList<gki3Point> b,gki3Point[] a){  
    b.removeAll(b);  
    for(int i=0;i<a.length;i++){  
        b.add(a[i]);  
    }  
}  
  
}
```