

```

package player;

import java.util.HashSet;
import java.util.Iterator;
import java.util.Set;

import edu.neu.ccs.demeterf.demfgen.lib.List;
import edu.neu.ccs.satsolver.InputInitialI;
import gen.*;

public class InputInitial implements InputInitialI {
    public Derivative d;
    public Set<PairIt> p;

    public InputInitial(Derivative d){
        this.d = d;
        this.p = this.getPairs();
    }

    @Override
    public Set<PairIt> getPairs() {
        Set<PairIt> s = new HashSet<PairIt>();
        Set<RelationNr> rs = new HashSet<RelationNr>();
        double fraction;
        double[] bigArray = new double[256];
        List<Constraint> loc = d.optraw.inner().instance.cs;
        Iterator<Constraint> iter = loc.iterator();
        Constraint c;

        double totalweight = 0.0;

        while(iter.hasNext()){
            c = iter.next();
            totalweight += c.w.v;
            bigArray[c.r.v] += (double)c.w.v;
            rs.add(c.r);
        }

        /*
        for(int i=0; i<loc.length(); i++){
            c = loc.lookup(i);
            totalweight += c.w.v;
            bigArray[c.r.v] += (double)c.w.v;           //keep track of weights
            rs.add(c.r);
            //make a set of unique relation numbers
        }
        */
        Iterator<RelationNr> r_iter = rs.iterator();
        while(r_iter.hasNext()){
            RelationNr r = (RelationNr) r_iter.next();
            fraction = bigArray[r.v]/totalweight;
            //System.out.println(fraction);
            s.add(new PairIt(r, fraction));
        }

        return s;
    }
}

```