```java
public class TV_Program {
        private String name;
        private double audienceRate;
        private String day;
        private int time;


        public TV_Program(String name, double audienceRate, String day, int time) {
                this.name = name;
                this.audienceRate = audienceRate;
                this.day = day;
                this.time = time;
        }
        public String getName() {
                return name;
        }
        public double getAudienceRate() {
                return audienceRate;
        }
        public String getDay() {
                return day;
        }
        public int getTime() {
                return time;
        }



        }
```

```java
public class TV_Channel {

        private String name;
        private boolean live;
        private int frequancy;
        private TV_Program[] arProg;
        private int nbp;
        public TV_Channel(String name, boolean live, int frequancy)
        {
                this.name = name;
                this.live = live;
                this.frequancy = frequancy;
                arProg = new TV_Program[25];
                nbp = 0;
        }
```

```java
public TV_Channel(TV_Channel p)
{
        name = p.name;
        live = p.live;
        frequancy = p.frequancy;
        arProg=new TV_Program[p.arProg.length];
        nbp = 0;
        for(int i=0; i<p.nbp; i++)
                addProgram(p.arProg[i]);
}

public boolean addProgram(TV_Program p)
{
        if(nbp >= arProg.length)

                return false;

        arProg[nbp] = p; //aggregation
        nbp++;
        return true;

}

public boolean contains(String pname)
{
        for(int i=0; i<nbp; i++)
                if(arProg[i].getName().equals(pname))
                        return true;
        return false;
}

public double avgAudienceRate(String d)
{
        double sum=0;
        int count =0;
        for(int i=0; i<nbp; i++)
                if(arProg[i].getDay().equals(d))
                {
                        sum+=arProg[i].getAudienceRate();
                        count++;
                }

        if(count == 0) return 0;
        return sum/count;
}

public boolean isLive() {
        return live;
}
}
```

```java
public class TV_Group {

    private String name;
    private TV_Channel[] arTV;
    private int nbc;

    TV_Group(String name, int size)
    {
        this.name = name;
        arTV = new TV_Channel[size];
        nbc = 0;
    }

    public boolean add(TV_Channel tvc)
    {
        if(nbc >= arTV.length)
            return false;
        arTV[nbc] = new TV_Channel(tvc); //composition
        nbc++;
        return true;
    }

    public TV_Channel[] searchTV_Channels(String pName)
    {
        TV_Channel tvc[]=new TV_Channel[nbc];
        int k=0;

        for(int i=0; i<nbc; i++)
            if(arTV[i].contains(pName))
            {    tvc[k]=arTV[i];
                k++;
            }
        return tvc;
    }

    public int countLiveTV(String d, double a)
    {
        int count=0;

        for(int i=0; i<nbc; i++)
            if(arTV[i].isLive()
                        && arTV[i].avgAudienceRate(d) > a)
                count++;

        return count;
    }

    public TV_Channel bestTV_Channel(String d)
    {
        TV_Channel best = arTV[0];
```

```java
        for(int i=1; i<nbc; i++)
                if(best.avgAudienceRate(d) < arTV[i].avgAudienceRate(d))
                        best = arTV[i];

        return best;
    }

}
```

```java
public class Main {

    /**
     * @param args
     */
    public static void main(String[] args) {
        // TODO Auto-generated method stub

        TV_Program prog1 = new TV_Program("Islamic voice",80,"Saturday",21);
        TV_Program prog2 = new TV_Program("Quran and Sunnah",70,"Sunday",23);

        TV_Channel tvc = new TV_Channel("Peace TV", false,13547);

        System.out.println(tvc.addProgram(prog1));
        System.out.println( tvc.addProgram(prog2));

        TV_Group tvg = new TV_Group("Islam Every Where",10);

        System.out.println(tvg.add(tvc));

        System.out.println(tvg.countLiveTV("Sunday", 50));

    }

}
```

OUTPUT :

```
true
true
true
0
```