Danielle Epstein – HomeWork 2

Divisors.java

```
public class Divisors
{
    public static void main(String[] args)
    {
        int x = Integer.parseInt(args[0]);
        int counter = 1;
        while(counter<=x)
        {
            if(x%counter==0)
            {
                System.out.println(counter);
            }
            counter = counter+1;
        }
    }
}
```

Reverse.java

```
public class Reverse
{
    public static void main(String[] args)
    {
        String word = args[0];
        int counter = word.length()-1;
        while (counter>=0)
        {
            System.out.print(word.charAt(counter));
            counter = counter-1;
        }
        System.out.println();
        System.out.println("The middle character is "+word.charAt(word.length()/2));
    }
}
```

InOrder.java

```java
public class InOrder
{
    public static void main(String[] args)
    {
        int x=1;
        int y=0;
        while (x>=y)
        {
            x = (int)(Math.random()*10);
            if (x>=y)
            {
                System.out.print(x);
            }
            y = (int)(Math.random()*10);
            if (x<=y)
            {
                System.out.print(" "+y+" ");
            }
        }
    }
}
```

perfect.java

```java
public class Perfect
{
    public static void main(String[] args)
    {
        int x = Integer.parseInt(args[0]);
        int counter = 2;
        int sum =1;
        String a = "1 ";
        while(counter<=x)
        {
            if(x%counter==0)
            {
            if((counter)==x)
            {
                a+=" = "+x;
            }
            else
            {
                sum+=counter;
                a =a+"+ "+counter+" ";
            }
            }
            counter +=1;
        }
        if (sum==x)
        {
            System.out.println(x+" is a perfect number since "+a);
        }
        else System.out.println(x+" is not a perfect number");
    }

}
```

DamkaBoard.java

```java
public class DamkaBoard
{
    public static void main(String[] args)
    {
        int n = Integer.parseInt(args[0]);
        int x = n;
        while (x>1)
        {
            for(int i=0; i<n; i++)
            {
            System.out.print("* ");
            }
            System.out.println();
            for(int j=0; j<n; j++)
            {
            System.out.print(" *");
            }
            System.out.println();
            x-=2;
        }
        if ((n%2)!=0)
        {
            for(int k=0; k<n; k++)
            {
            System.out.print("* ");
            }
        }

    }
}
```

OneOfEach.java

```
public class OneOfEach
{
    public static void main(String[] args)
    {
        int x=(int)(Math.random()*10);
        int sum=1;
        boolean y = false;
        String a="";
        if(x<5)
        {
            a="g ";
            while (y==false)
            {
                x=(int)(Math.random()*10);
                if(x<5)
                    {
                        a+= "g ";
                        sum++;
                    }
                else
                    {
                        a+= "b ";
                        y=true;
                        sum++;
                    }

            }
        }
        else
        {
            a="b ";
            while (y==false)
                {
                    x=(int)(Math.random()*10);
                    if(x<5)
                        {
                            a+= "g ";
                            y=true;
                            sum++;
                        }
                    else
                        {
                            a+= "b ";
                            sum++;
                        }
                }
        }
        System.out.println(a);
        System.out.println("You made it... and you now have "+sum+" children");
    }

}
```

OneOfEachStats1.java

```
public class OneOfEachStats1
{
    public static void main(String[] args)
    {
        double t = Double.parseDouble(args[0]);
        int x;
        int sum;
        double total=0.0;
        int two=0;
        int three=0;
        int four=0;
        boolean y;
        String a;
        for(int i=0;i<=t;i++)
        {
            x=(int)(Math.random()*10);
            sum=1;
            y = false;
            a="";
            if(x<5)
            {
                a="g ";
                while (y==false)
                {
                    x=(int)(Math.random()*10);
                    if(x<5)
                        {
                            a+= "g ";
                            sum++;
                        }
                    else
                        {
                            a+= "b ";
                            y=true;
                            sum++;
                        }

                }
            }
            else
            {
                a="b ";
                while (y==false)
                    {
                        x=(int)(Math.random()*10);
                        if(x<5)
                            {
                                a+= "g ";
                                y=true;
                                sum++;
                            }
                        else
```

```
                            {
                                a+= "b ";
                                sum++;
                            }
                    }
            }
            total+=sum;
            if(sum==2)
            {
                two++;
            }
            else if(sum==3)
            {
                three++;
            }
            else four++;
        }
        System.out.println("Average: "+(total/t)+" children to get at least one of each
gender.");
        System.out.println("Number of families with 2 children: "+two);
        System.out.println("Number of families with 3 children: "+three);
        System.out.println("Number of families with 4 or more children: "+four);
        if ((two>three)&&(two>four))
        {
            System.out.println("The most common number of children is: 2");
        }
        else if(three>four)
        {
            System.out.println("The most common number of children is: 3");
        }
        else System.out.println("The most common number of children is: 4");
    }

}
```

OneOfEachStats.java

```
import java.util.Random;

public class OneOfEachStats
{
    public static void main(String[] args)
    {
        double t = Double.parseDouble(args[0]);
        int x;
        int seed=Integer.parseInt(args[0]);
        Random generator = new Random(seed);
        int sum;
        double total=0.0;
        int two=0;
        int three=0;
        int four=0;
        boolean y;
        String a;
        for(int i=0;i<=t;i++)
        {
            x= generator.nextInt();
            sum=1;
            y = false;
            a="";
            if(x<5)
            {
                a="g ";
                while (y==false)
                {
                    x=generator.nextInt();
                    if(x<5)
                        {
                            a+= "g ";
                            sum++;
                        }
                    else
                        {
                            a+= "b ";
                            y=true;
                            sum++;
                        }

                }
            }
            else
            {
                a="b ";
                while (y==false)
                    {
                        x=generator.nextInt();
                        if(x<5)
                            {
                                a+= "g ";
```

```
                            y=true;
                            sum++;
                        }
                    else
                        {
                            a+= "b ";
                            sum++;
                        }
                }
            }
            total+=sum;
            if(sum==2)
            {
                two++;
            }
            else if(sum==3)
            {
                three++;
            }
            else four++;
        }
        System.out.println("Average: "+(total/t)+" children to get at least one of each
gender.");
        System.out.println("Number of families with 2 children: "+two);
        System.out.println("Number of families with 3 children: "+three);
        System.out.println("Number of families with 4 or more children: "+four);
        if ((two>three)&&(two>four))
        {
            System.out.println("The most common number of children is: 2");
        }
        else if(three>four)
        {
            System.out.println("The most common number of children is: 3");
        }
        else System.out.println("The most common number of children is: 4");
    }

}
```