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Dæmahópur 9 skil: 02.10.15
Dæmatímakennari: Kristófer Montazeri

Tölvunarfræði 1
Heimadæmi 2

Dæmi 1

```
    public static double[] hlutSlembiFylki(int n) {
        int N = 2*n;
        double[] a = new double[N];

        for (int i = 2; i < N ; i = i+2 ) {
            a[i] = i/2;
        }

        for (int i = 1; i < N ; i = i+2 ) {
            a[i]= Math.random();

        }

        return a;
}
```

Dæmi 2

```
    public static double geomean(double[] a) {

       double n = a.length;
       double margfeldi = a[0];
       for (int i = 1; i < n; i++) {
            margfeldi = margfeldi*a[i];
       }

       double svar = Math.pow(margfeldi,1/n);
       return svar;
    }
```

Dæmi 3

```
public class SlembiTeikna {

    public static int slembi739(int r) {

      int t = ((171*r)+7) % 739;

      return t;
    }
```

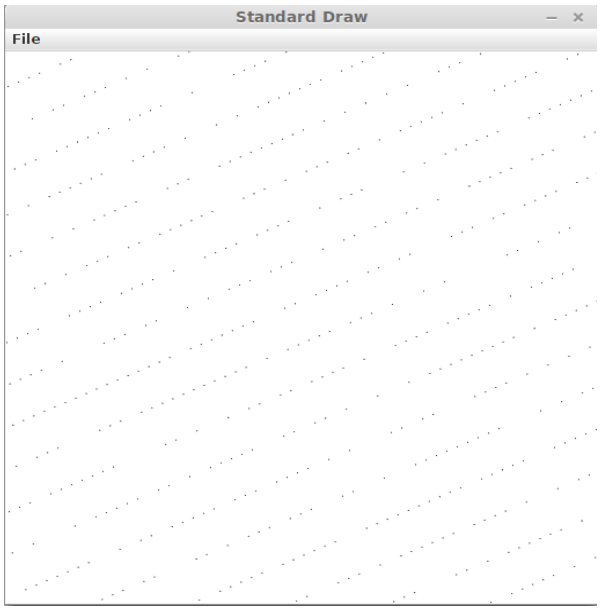
```
 public static void main(String[] args) {

     int[] a = new int[1000];
     int r = 0;

     for (int i = 0; i < a.length; i++) {
          a[i] = slembi739(r);
          r = a[i];
     }

     double[] b = new double[a.length];
     for (int i = 0; i < a.length ; i++ ) {
          b[i]=a[i]/738.0;
          System.out.println(b[i]);
     }

          for (int i = 0; i < a.length; i++) {
               StdDraw.point(b[i/2],b[(i/2)+1]);
          }
    }
}
```

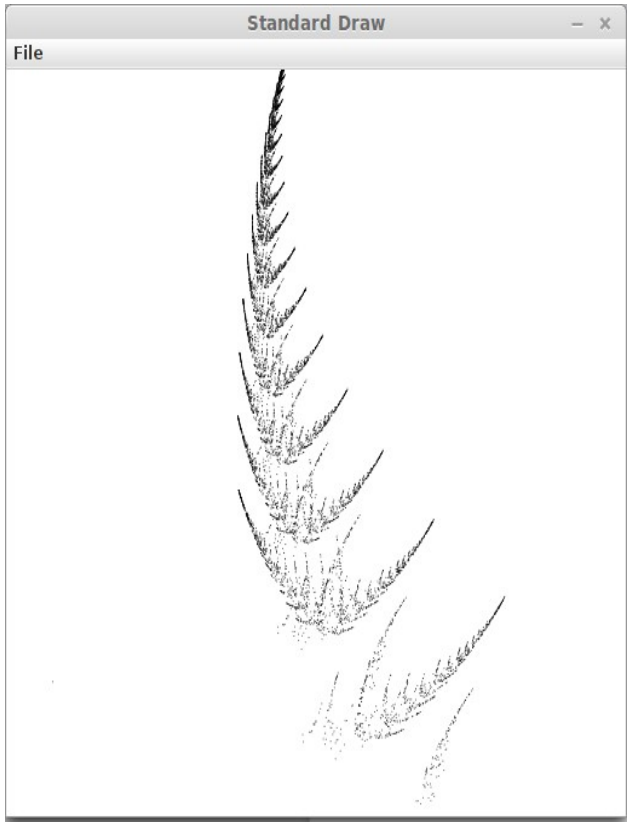


Dæmi 4

```
4
   0.01   0.85   0.07   0.07

4 3
   0.10   0.10   0.600
   0.75   0.04   0.075
   0.10  -0.16   0.500
  -0.15   0.28   0.575

4 3
   0.00   0.16   0.000
  -0.04   0.85   0.180
   0.33   0.22   0.045
   0.26   0.24  -0.086
```



Dæmi 5

```
public class TeningaGamble {

    public static int diceToss() {
        int dice1 = (int) (Math.random()*6+1);
        int dice2 = (int) (Math.random()*6+1);
        int sum = dice1 + dice2;
        return sum;
    }

    public static boolean firstToss() {
        int sum = diceToss();
        if (sum == 7 || sum == 11) return true;
        else if (sum == 2 || sum == 3 || sum == 12) return false;
        else return nextToss();
    }

    public static boolean nextToss() {
        int sum = diceToss();
        if (sum == 7) return false;
        else if (sum == 2 || sum == 3 || sum == 11 || sum == 12) return
               nextToss();
        else return true;
    }

        public static void main(String[] args) {

            int T = Integer.parseInt(args[0]);
            int wins = 0;

           for (int i = 0; i < T; i++) {
                firstToss();
                if (firstToss() == true) wins++;
           }

           System.out.println("Number of wins: " + wins);
    }}
```

```
rakel@rakel-Satellite-L655 ~/Documents/SKÓLI/Tölvunarfræði 1/Forrit $ java
TeningaGamble 1000
Number of wins: 754
```
