
Lyapunov exponent approximation (Homework 6 computer exercise)

Here's something for computing the Lyapunov exponent for the logistic family :

```
simplelog[a_, x_, n_] :=  $\frac{1}{n+1}$  Plus @@  
  (Log[Abs[a (1 - 2 #)]] & /@ NestList[a # (1 - #) &, x, n])
```

This allows a more general choice of f:

```
simple[f_, x_, n_] :=  $\frac{1}{n+1}$  Plus @@  
  (Log[Abs[f' [#]]] & /@ NestList[f, x, n])
```

The graphs should all look more or less like this :

```
Random[]  
0.847551  
Plot[simplelog[a, %, 1000], {a, 2, 4}]
```

