

Simulating Brownian motion iteratively:

Matlab script:

```
>> y = randn; X=[0,y];  
  
>> for n=1:10,  
Y=[];  
for k=1:(2^(n-1)),  
y = 0.5*(X(k)+X(k+1)) + sqrt(1/2^n)*randn;  
Y=[Y,y,X(k+1)];  
end;  
X=[0,Y];  
end  
  
>> plot(0:(1/2^10):1,X)
```

