College Name: - Walchand College of Engineering, Sangli
Year: -   Third Year
Name: -   Om Ajit Patil
PRN: -   2020BTEEN00058
Subject: - Digital Signal System Lab
Batch: -   EN3

Code

```
%signal smoothing by a Moving-Average filter

clc;
clear all;
close all;

R=50;
d=rand(R,1)-0.5;
m=0:1:R-1;
s=2*m.*(0.9.^m);
x=s+d';

M=input('Number of Input Samples =');
b=ones(1,M)/M;
y=filter(b,1,x);
figure(1);
plot(m,d,'r-',m,s,'b--',m,x,'k:')
xlabel('Time index n');ylabel('Amplitude')
legend('d[n]','s[n]','x[n]');
figure(2)
plot(m,s,'r-',m,y,'b--')
legend('s[n]','y[n]');
xlabel('Time index n');ylabel('Amplitude')
```