EXPT NO 7

## Construct LMS adaptive filter to identify an unknown system

clc;

clear all;

close all;

x=randn(1,500);

b=fir1(31,0.5);

n=0.1\*randn(1,500);

d=filter(b,1,x)+n;

mu=0.008;

ha=adaptfilt.lms(32,mu)

[y,e]=filter(ha,x,d);

subplot(2,1,1);

plot(1:500,[d;y;e]);

title('system identification of FIR system')

legend('Desired','output','error');

xlabel('time index');

ylabel('signal value');

grid on;

subplot(2,1,2);

stem([b.',ha.coefficients.']);

legend('Actual','Estimated');

xlabel('co-efficient');

ylabel('co-efficient value');

grid on;

ha =

 Algorithm: 'Direct-Form FIR LMS Adaptive Filter'

 FilterLength: 32

 StepSize: 0.008

 Leakage: 1

 PersistentMemory: false

