%Design of Low Pass IIR Filter using Impulse Invariance Technique

clc;

close all;

clear all;

alphap=input('maximum passband attenuation in db = ');

alphas=input('minimum Stopband attenuation in db =') ;

wpn=input(' passband edge frequency in rad = ');

wsn = input(' stopband edge frequency in rad = ');

[N,wc] =buttord(wpn,wsn,alphap,alphas,'s');

[b,a] =butter(N,wc,'s');

[bz,az]=impinvar(b,a);

subplot(2,1,1)

[y,w] =freqz(bz,az);

plot(w/pi,abs(y));

xlabel(" Normalized Frequency ");

ylabel("Magnitude");