MATLAB CODE FOR ECG:

x=0.01:0.01:2;

default=input('Press 1 if u want default ecg signal else press 2:\n');

if(default==1)

li=30/72;

a\_pwav=0.25;

d\_pwav=0.09;

t\_pwav=0.16;

a\_qwav=0.025;

d\_qwav=0.066;

t\_qwav=0.166;

a\_qrswav=1.6;

d\_qrswav=0.11;

a\_swav=0.25;

d\_swav=0.066;

t\_swav=0.09;

a\_twav=0.35;

d\_twav=0.142;

t\_twav=0.2;

a\_uwav=0.035;

d\_uwav=0.0476;

t\_uwav=0.433;

else

rate=input('\n\nenter the heart beat rate :');

li=30/rate;

%p wave specifications

fprintf('\n\np wave specifications\n');

d=input('Enter 1 for default specification else press 2: \n');

if(d==1)

a\_pwav=0.25;

d\_pwav=0.09;

t\_pwav=0.16;

else

a\_pwav=input('amplitude = ');

d\_pwav=input('duration = ');

t\_pwav=input('p-r interval = ');

d=0;

end

%q wave specifications

fprintf('\n\nq wave specifications\n');

d=input('Enter 1 for default specification else press 2: \n');

if(d==1)

a\_qwav=0.025;

d\_qwav=0.066;

t\_qwav=0.166;

else

a\_qwav=input('amplitude = ');

d\_qwav=input('duration = ');

t\_qwav=0.166;

d=0;

end

%qrs wave specifications

fprintf('\n\nqrs wave specifications\n');

d=input('Enter 1 for default specification else press 2: \n');

if(d==1)

a\_qrswav=1.6;

d\_qrswav=0.11;

else

a\_qrswav=input('amplitude = ');

d\_qrswav=input('duration = ');

d=0;

end

%s wave specifications

fprintf('\n\ns wave specifications\n');

d=input('Enter 1 for default specification else press 2: \n');

if(d==1)

a\_swav=0.25;

d\_swav=0.066;

t\_swav=0.09;

else

a\_swav=input('amplitude = ');

d\_swav=input('duration = ');

t\_swav=0.09;

d=0;

end

%t wave specifications

fprintf('\n\nt wave specifications\n');

d=input('Enter 1 for default specification else press 2: \n');

if(d==1)

a\_twav=0.35;

d\_twav=0.142;

t\_twav=0.2;

else

a\_twav=input('amplitude = ');

d\_twav=input('duration = ');

t\_twav=input('s-t interval = ');

d=0;

end

%u wave specifications

fprintf('\n\nu wave specifications\n');

d=input('Enter 1 for default specification else press 2: \n');

if(d==1)

a\_uwav=0.035;

d\_uwav=0.0476;

t\_uwav=0.433;

else

a\_uwav=input('amplitude = ');

d\_uwav=input('duration = ');

t\_uwav=0.433;

d=0;

end

end

pwav=p\_wav(x,a\_pwav,d\_pwav,t\_pwav,li);

%qwav output

qwav=q\_wav(x,a\_qwav,d\_qwav,t\_qwav,li);

%qrswav output

qrswav=qrs\_wav(x,a\_qrswav,d\_qrswav,li);

%swav output

swav=s\_wav(x,a\_swav,d\_swav,t\_swav,li);

%twav output

twav=t\_wav(x,a\_twav,d\_twav,t\_twav,li);

%uwav output

uwav=u\_wav(x,a\_uwav,d\_uwav,t\_uwav,li);

%ecg output

ecg=pwav+qrswav+twav+swav+qwav+uwav;

figure(1)

plot(x,ecg);