ECG mat lab code:

|  |
| --- |
| 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); |