SUPPLEMENTAL CODE FILE

**EXAMPLE CODE 1**

This code generates a two-dimensional array to play a touch to a tactor and a sound to a loudspeaker.

tactorbeep(1,:) =makebeep(250,0.1); LEFT CHANNEL

tactorbeep(2,:)=zeros; RIGHT CHANNEL

soundbeep(1,:)=zeros; LEFT CHANNEL

soundbeep(2,:) =makebeep(3000,0.1); RIGHT CHANNEL

snd(‘Play’,tactorbeep\*x); vibrates tactor connected to the left channel at intensity x

snd(‘Play’,soundbeep\*y); plays sound to speaker connected to the right channel at intensity y

**EXAMPLE CODE 2**

This code presents two intervals, marked by beeps, one of which contains the stimulus. It then reads in the participant’s response and codes it.

Duration= 1000ms; % the duration of each interval

ntrials = 25; % the number of trials for each block

Running = true;

While running % this loops around until all the trials are complete

% Decide which interval will have the more intense stimuli.

 interval = ceil(rand\*2); %interval is either 1 or 2

 x=10^QuestMean(q(touch)); %obtain intensity for next trial

%INTERVAL 1

 Snd('Play',soundbeep); %PLAY BEEP TO SPEAKER (RIGHT CHANNEL)

 pause(0.1); % so that the stimulus occurs 100ms into the trial

 tic;

 if interval == 1

 Snd('Play',tactorbeep\*x); %PLAY BEEP to TACTOR (LEFT CHANNEL)

 end

 while(toc<duration) % waits for the remainder of the interval

 continue;

 end

%INTERVAL 2

 Snd('Play',soundbeep); %SIGNAL BEGINNING OF SECOND INTERVAL

 pause(0.10);

 tic;

 if interval == 2

 Snd('Play',tactorbeep\*x);

 end

 while(toc<duration)

 continue;

 end

 %toc

 Snd('Play',soundbeep); %TO INDICATE END OF SECOND INTERVAL

% Get Response

 buttons=[0 0 0];

 while buttons == [0 0 0] % Wait for mouse click.

 [x1,y1,buttons]=GetMouse; % read mouse.

 end

 if buttons == [1 0 0]

 response = 1; %INDICATES LEFT BUTTON PRESSED (ie 1st INT chosen)

 elseif buttons == [0 0 1]

 response = 2; %INDICATES RIGHT BUTTON PRESSED (ie. 2nd INT chosen)

 end

if response==interval

 correct=1;

 else

 correct=0;

 end

q(touch)=QuestUpdate(q(touch),log10(x),correct); %UPDATE THE QUEST WHICH THEN CALCULATES THE INTENSITY TO USE IN THE NEXT TRIAL

ntrials = ntrials-1;

if ntrials == 0

 running = false;

end;

end; % end of while loop