Part II
sample script

Eye-of-origin singleton project

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How should I code the dichoptic stimulus?

1. Implement by yourself: left eye red, right eye blue/green.

2. Using PTB built-in stereoscopic method.
   Advantages:
   1) Easy transfer to other type of stereo mode.
   2) Easy to read.
   2) better graphical performance.

```
% stereomode 6 means red-green anaglyph
params.screen.STEREO_MODE = 6;
% Open double-buffered onscreen window with the requested stereo mode,
[windowPtr, windowRect] = PsychImaging('OpenWindow', params.screen.SCREEN_NUM, ...
    params.screen.BACK_COLOR, [], [], [], params.screen.STEREO_MODE);

% select the canvas for left eye input and draw
Screen('SelectStereoDrawBuffer',windowPtr,0);
Screen('DrawTexture', windowPtr, LeftStimulusPage)
% select the canvas for right eye input and draw
Screen('SelectStereoDrawBuffer',windowPtr,1);
Screen('DrawTexture', windowPtr, RightStimulusPage)
% Show the canvas on the screen
[~, StimulusOnsetTimeSec] = Screen('Flip', windowPtr);
```

How do you record subject's response?

No standard way. But this might be the easiest way in this case.

```
[~, StimulusOnsetTimeSec] = Screen('Flip', windowPtr);
% [VBLTimestamp StimulusOnsetTime FlipTimestamp Missed Beampos] =
%      Screen('Flip', windowPtr [, when] [, dontclear] [, dontsync] [, multiflip]);
% Flip (optionally) returns a high-precision estimate of the system time
%    (in seconds) when the actual flip has happened in the return argument
%    'VBLTimestamp'. (VBL: vertical retrace)
% An estimate of Stimulus-onset time is returned in 'StimulusOnsetTime'.
% 'FlipTimestamp' is a timestamp taken at the end of Flip's execution.

%% -- wait for the response
[keyPressTimeSec, keyCode] = KbWait;
% [secs, keyCode, deltaSecs] = KbWait([deviceNumber][, forWhat=0][, untilTime=inf])
% Waits until any key is down and optionally returns the time in seconds
%   and the keyCode vector of keyboard states,
% CAUTION: KbWait periodically checks the keyboard. After each failed check
%   (ie. no change in keyboard state) it will wait for 5 msecs before the
%   next check. This is done to reduce the load on your system, and it is
%   important to do so. However if you want to measure reaction times this is
%   clearly not what you want, as it adds up to 5 msecs extra uncertainty to
%   all measurements!

% record which key was pressed
char = KbName(keyCode);
% Response Time of button press
RT = keyPressTimeSec - StimulusOnsetTimeSec;
```

Try thinking what if you need more precise time recording.