

# MATLAB helpful hacks

## Index Non-Empty Cells in Cell Array

<http://www.mathworks.com/matlabcentral/answers/42283-index-non-empty-cells-in-cell-array>

```
x = {1,[],[],[]}; find(~cellfun(@isempty,x))
```

## startup.m

When MATLAB starts, it will look for a **pathdef.m** file in its startup directory.

Start up folder (in the MATLAB icon | Properties | Start in ) (e.g. D:\Sources\MATLAB) allows controlling different paths and other settings via startup.m file placed in the folder, e.g.:

```
disp('Welcome to physiology analysis...');
set_sources_path; % set additional paths dynamically, e.g.
% addpath(genpath('D:\Sources\MATLAB'));

cd('F:\Data');
edit;
EditorMacro('Alt-Control-h', @createHeaderComment_dag);

dbstop if error
```

## Exiting loop (for / while -> pause) gracefully

(i.e., without "ctrl-C" abort)

For example, when paging thru trials:

```
figure('Name','Plot trial','CurrentChar',' ');
for k = 1:length(trial),
    ...
    drawnow; pause;
    if get(gcf,'CurrentChar')== 'q', % pressing "q" will exist the loop, make
sure focus is on the figure!
        break;
    end
    clf;
end
```

## Finding indices between two vectors of start and end indices, using arrayfun

Assume we have two vectors, repeated\_segments\_start\_idx, and repeated\_segments\_end\_idx, and we

want to find all indices between each pair.

```
idx =  
[repeated_segments_start_idx(segments2remove_idx):repeated_segments_end_idx(  
segments2remove_idx)] % DOES NOT WORK, OF COURSE!  
  
idx =  
cell2mat(arrayfun(@colon,repeated_segments_start_idx,repeated_segments_end_i  
dx,'UniformOutput',false)); % WORKS!
```

## Maximize figure window

```
set(gcf,'units','normalized','outerposition',[0 0 1 1]);
```

## Plot an "imagesc" with transparent NaNs

```
h = imagesc(X,Y,C);  
set(h,'alphanodata',~isnan(C));
```

## Shifting colormaps

Sometimes the colormap plots are shifted after printing. To fix this: - in Adobe Illustrator, click on the colormap, release clipping mask, and go to "Object", "Rasterize", in the "Resolution" part click on the "Use Document Raster Effects Resolution".

You have to do it for each of the colormaps.

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