MatLab bootcamp meeting # 3: Automatic processing of multiple subjects

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Nov 2021

Feedback

The GutHub is up and running!

https://uihackyhour.github.io/matlabfall2021/

You can download the example script I will be writing today and follow along as I write!

Hot tips for setting-up a script that analyzes data from multiple subjects

Order of operations:

01

Always start with one subject (or cell, or animal)

02

Make sure the code runs & saves

03

Add looping to go through more subjects

Script iterations:

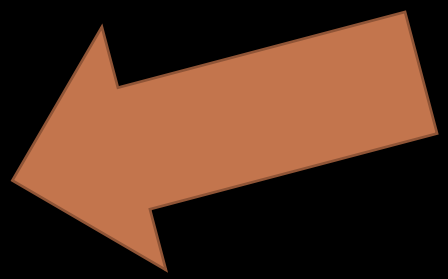
- Any time you make significant changes to a script, save a new version, update the iteration history.

- Significant changes = adding a graph, adding a calculation, adding a loop.

```
% Iteration history:
% April 2021 - J. Wessel - Original code called AprlstWaveletCode.
% August 2021 - V. Muller Ewald - Modified code to work with Parker lab ITT data
% September 2021 - V. Muller Ewald - Modified epoching to work with V. Muller Ewald pre-processing pipeline
% September 2021 - V. Muller Ewald - Added loop through channels
% September 2021 - V. Muller Ewald - Added LIT loop
```

Consistency is key

SubjectData1
SubjectData2
Subject Data3
SubjectData#4

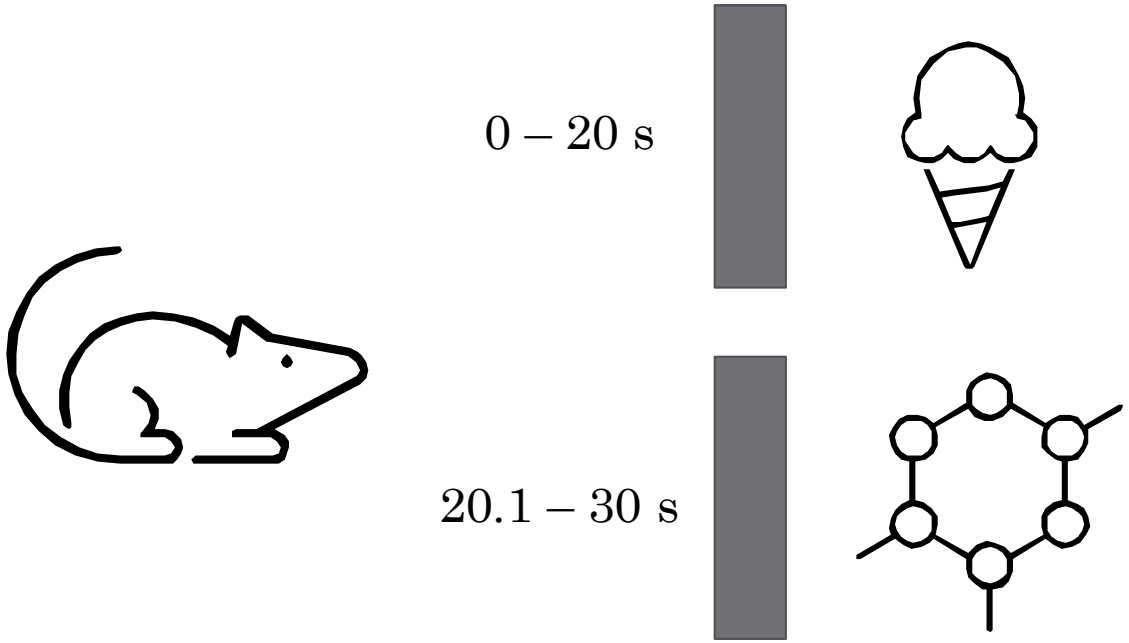


Inconsistent =
MatLab will crash

Example script of the week

Reminder about the data-set we are working with:

Rat data set: experimental set-up



Questions of interest:

1. How many total trials were there?
2. How many ice cream (quick) trials were there?
3. How many cocaine (slow) trials were there?
4. What were the mean latencies of all the trials, quick trials only and slow trials only?

RatLatencyData_v2

- Imports data from rat
- Sorts into slow and quick trials
- Saves in a table

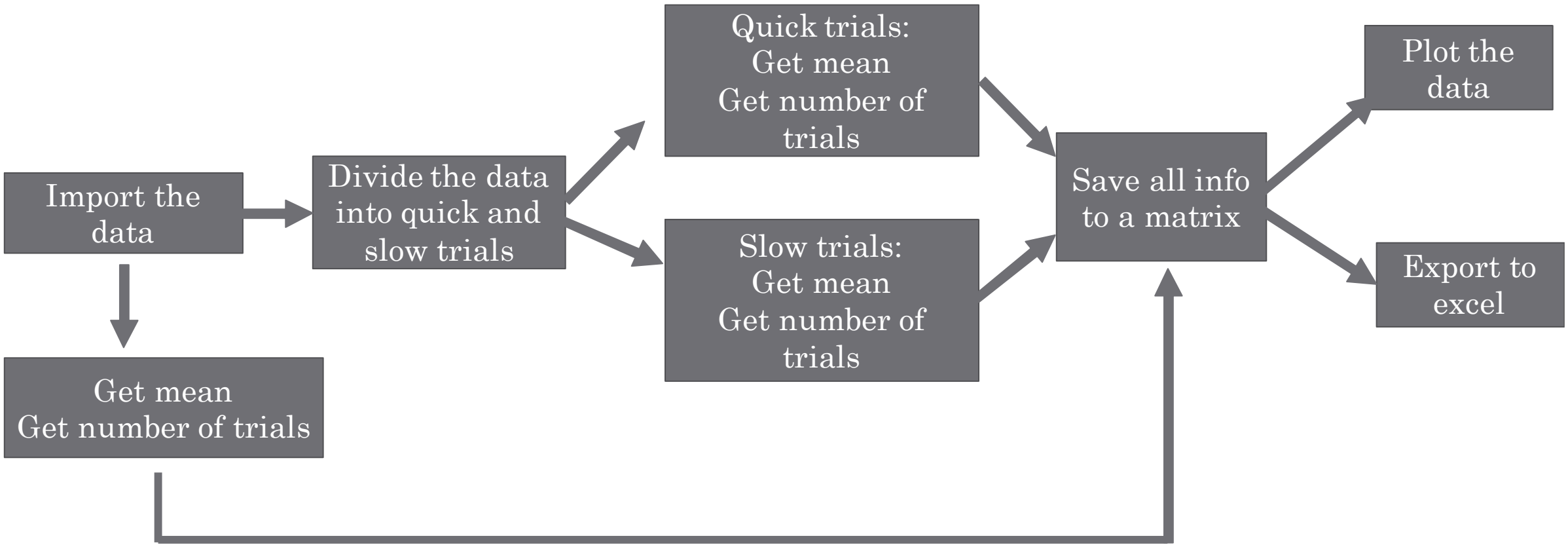
RatLatencyData_v3

For ratLoop = 1:nRats

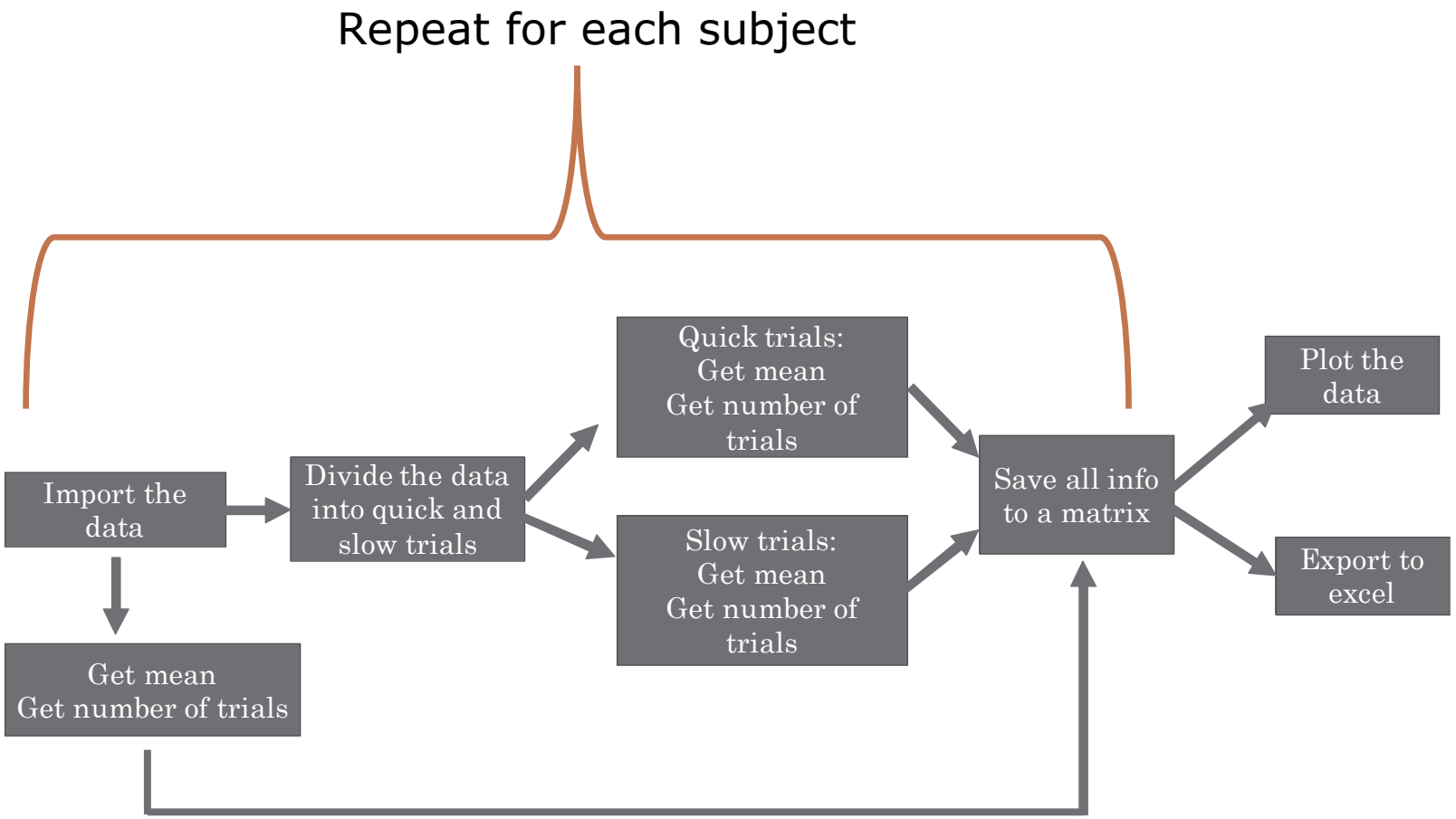
- Imports data from rat
- Sorts into slow and quick trials
- Saves in a table

End

Last week we wrote:

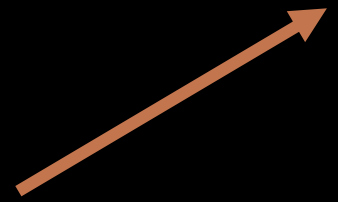


This week we will write:



RatLatencyData_v3

1. Create a subject directory
2. Load a subject
3. Analyze data from that subject
4. Save data from that subject
5. Load another subject
6. Etc.



An excel sheet that contains the IDs of the subjects that we want to analyze

Pets of the week