

# FED3 Time Bins Installation Guide

## 1. Install Anaconda

First, you need **Anaconda** to manage dependencies and environments. If you don't have it installed yet, download and install **Anaconda** from here.

- **Windows:** After installation, open **Anaconda Prompt**.
- **Mac:** Open **Terminal**. If prompted, install **Xcode**.

## 2. Install Git (if needed)

Git is required to clone the repository. If Git is not already installed, you can install it using **Conda**:

1. Open **Anaconda Prompt** (Windows) or **Terminal** (Mac).
2. Run the following command to install Git:

```
conda install -c anaconda git
```

3. After installation, verify that Git is installed:

```
git --version
```

If you receive a Git version number, you're ready to move on.

## 3. Clone the Repository

1. In **Anaconda Prompt** or **Terminal**, navigate to the directory where you want to store the repository (for example, your **home** directory).
2. Run the following command to clone the **FED3\_time\_bins** repository:

```
git clone https://github.com/Andrews-Lab/FED3_time_bins.git
```

3. Change into the cloned directory:

```
cd FED3_time_bins
```

## 4. Create and Activate Conda Environment

1. **Create a Conda environment** using the provided **Dependencies.yaml** file. This will install the required dependencies for the project:

```
conda env create -n FTB -f Dependencies.yaml
```

2. **Activate the Conda environment**:

```
conda activate FTB
```

If you encounter any issues during this step (like missing dependencies), manually install the required packages.

## 5. Install Missing Dependencies (if necessary)

If you encounter errors about missing dependencies (like PySimpleGUI or PyYAML), you can install them manually within the **FTB** environment:

- **Install PySimpleGUI:**

```
conda install -c conda-forge PySimpleGUI
```

Or using pip:

```
pip install PySimpleGUI
```

- **Install PyYAML:**

```
conda install -c conda-forge pyyaml
```

Or using pip:

```
pip install pyyaml
```

## 6. Run the Code

1. Now that your environment is set up and dependencies are installed, you're ready to run the code.
2. In the **FTB** environment, navigate to the directory where the repository was cloned (if you aren't already there):

```
cd FED3_time_bins
```

3. Run the script:

```
python FED.py
```

This should now work without issues. If you still encounter missing modules or errors, check the error message, install the missing dependencies, and try again.

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### Troubleshooting Tips:

- **Missing Modules:** If any additional modules are missing, you can install them with:

```
pip install <module-name>
```

Or, if using **Conda**, you can search for them in the **conda-forge** channel:

```
conda install -c conda-forge <module-name>
```

- **Conda Environment:** If you accidentally deactivate the Conda environment, reactivate it with:

```
conda activate FTB
```

- **Reinstall Dependencies:** If you run into issues where dependencies are not being correctly installed, consider deleting the environment and recreating it:

```
conda deactivate
```

```
conda remove --name FTB --all
```

```
conda env create -n FTB -f Dependencies.yaml
```

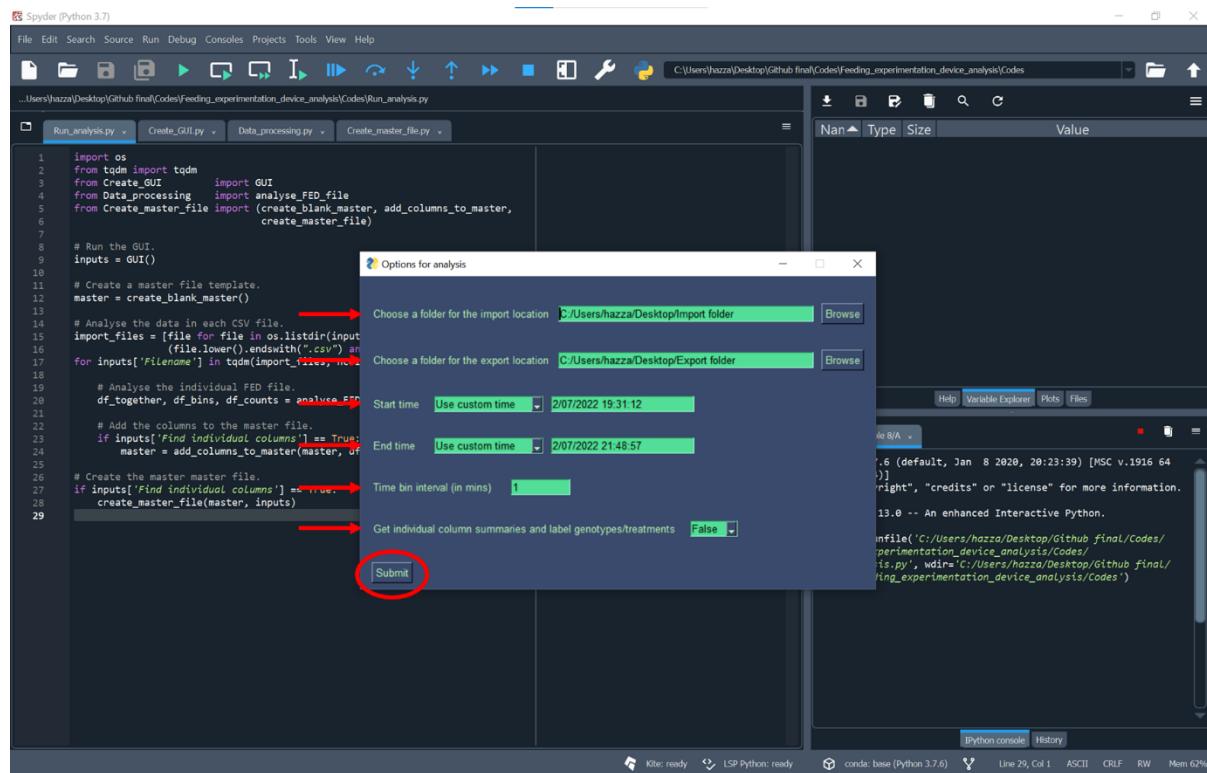
```
conda activate FTB
```

# Guide to the FED code

**Purpose:** the CSV output from the FED shows the timestamps of each event, like a nose poke or pellet retrieval. This code:

- Converts this output into a time binned file. It also adds another sheet with the time stamps of all pellet count changes.
- Creates a master file that combines all the “Left poke count” columns from the raw FED files into one sheet. It does the same thing for the other column types as well. The columns are then sorted by genotype and treatment.

1. Select all the options for time bins analysis and click “submit”. Here is an explanation of all the options:



- **Import location:** the import location is a folder that contains the raw FEDs data. The code will analyse each CSV file in the folder.
- **Export location:** the export location is a folder for the time binned files.
- **Start time:** There are 3 options for entering the start time. You can specify the date and time or just the time, and it will infer the date.
  - “Use custom time” specifies the date and time exactly. The time points from the raw data CSV file can also be copied directly.
  - “Use first timestamp” uses the time of the first row in the raw CSV file.
  - “Use initiation poke” finds the start time using the method in the image below.
- **End time:** There are 2 options for entering the end time. You can specify the date and time or just the time, and it will infer the date.

- “Use custom time” specifies the date and time exactly. The time points from the raw data CSV file can also be copied directly.
  - “Use last timestamp” uses the time of the last row in the raw CSV file.

File Home Insert Draw Page Layout Formulas Data Review View Help

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Font Alignment Number Styles Cells Editing

Clipboard Paste Insert Delete Format Analyze Data

MM-DD-YYYY hh:mm:ss

**1** Find what the active poke is defined as

**2** Find the row when the active poke changes for the first time

**3** Use this time point as the start time

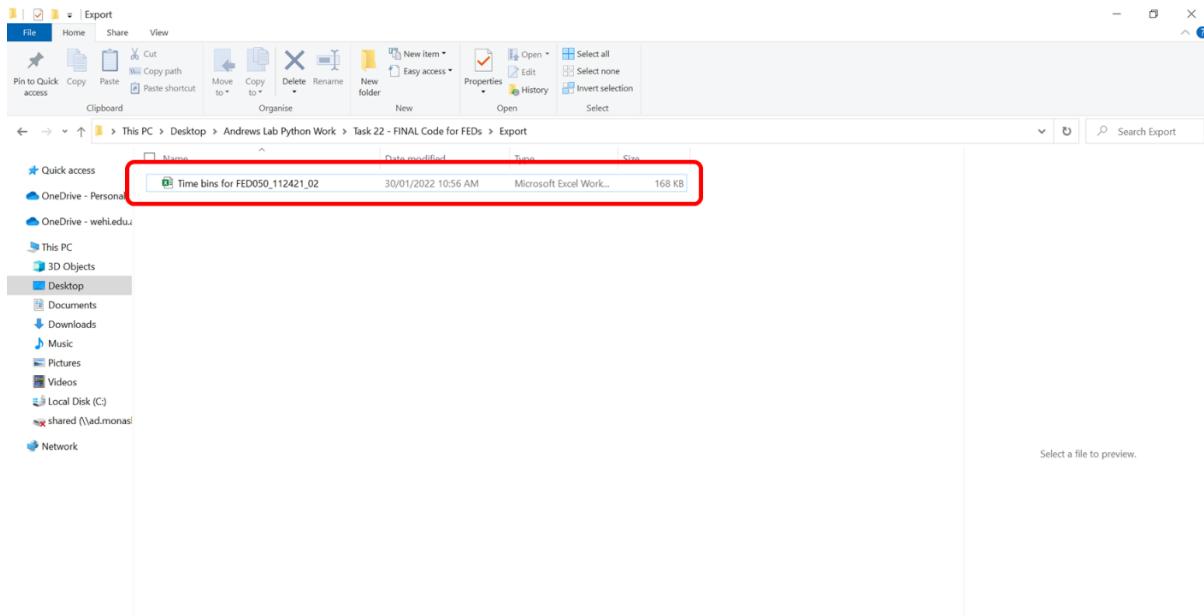
**4** Use the last time point present for the end time

Active\_Poke Left\_Poke\_Count Count Retrieval\_Time

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	MM-DD-YYYY hh:mm:ss	Device_Number	Battery_Voltage				Active_Poke	Left_Poke_Count								
2	6/28/2021 13:21:18	13	4.14				Left	0								
3	6/28/2021 14:18:17	13	4.13				Left	0								
4	6/28/2021 14:25:33	13	4.13	0		1 Poke	Left	0								
5	6/28/2021 14:36:49	13	4.12	0		1 Poke	Left	0								
6	6/28/2021 14:41:02	13	4.12	0		1 Poke	Left	1								
7									2							
8									3							
9									4							
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- **Time bin interval (mins):** the time bin length can be any whole number or decimal in minutes.
  - **Get individual column summaries:** make a master excel file that combines the data for each column across many files. The sheets are “left poke count”, “right poke count”, ... See step 9 onwards for an explanation of this option.

2. Go to the export location to find the time binned file.



### 3. Here is the exported data.

- The time bins 0, 1, 2, ... refer to  $t = 0$  mins,  $0 < t \leq 1$  mins,  $1 < t \leq 2$  mins, ... These are the rows in yellow. The sheet **Time bins** only contains these rows.
- Whenever a pellet count changes, the exact time point is shown as a decimal. The time points 4.28, 4.3, 4.33, ... refer to  $t = 4.28$  mins,  $t = 4.3$  mins,  $t = 4.33$  mins, ... These rows are shown in red and the sheet **Pellet count changes** only contains these rows.
- The sheet **All data** contains the rows from both these sheets together.

### All data sheet

Screenshot of an Excel spreadsheet titled "All data sheet". The spreadsheet displays a large dataset of experimental data. The columns represent various parameters: Date, Time, Time bins (mins), Library Version, Session Type, Motor Turns, FR, Left Poke Count, Right Poke Count, Pellet Count, Pellet Count Change, Block Pellet Count, Retrieval Time, Interpellet Interval, and Poke Time. The data spans from November 24, 2021, to November 24, 2021, with many rows colored yellow or red, indicating specific experimental events or time points. The bottom of the spreadsheet shows tabs for "All data" (selected), "Time bins", and "Pellet count changes".

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Date	Time	Time bins (mins)	Library Version	Session Type	Motor Turns	FR	Left Poke Count	Right Poke Count	Pellet Count	Pellet Count Change	Block Pellet Count	Retrieval Time	Interpellet Interval	Poke Time			
2	2021-11-24	11:55:20	0	1.11.0	Free_feed	1	0	0	0	1	1	0	4.55	0	0	0	0	
3	2021-11-24	11:56:20	1	1.11.0	Free_feed	0	0	0	0	1	0	0	0	0	0	0	0	
4	2021-11-24	11:57:20	2	1.11.0	Free_feed	0	0	0	0	1	0	0	0	0	0	0	0	
5	2021-11-24	11:58:20	3	1.11.0	Free_feed	0	0	0	0	1	0	0	0	0	0	0	0	
6	2021-11-24	11:59:20	4	1.11.0	Free_feed	0	0	0	0	1	0	0	0	0	0	0	0	
7	2021-11-24	11:59:37	4.283333333	1.11.0	Free_feed	2	0	0	0	2	1	0	60	257	0	0	0	
8	2021-11-24	11:59:38	4.3	1.11.0	Free_feed	1	0	0	0	3	1	0	0.18	1	0	0	0	
9	2021-11-24	11:59:40	4.333333333	1.11.0	Free_feed	1	0	0	0	4	1	0	0.18	2	0	0	0	
10	2021-11-24	11:59:44	4.4	1.11.0	Free_feed	1	0	0	0	5	1	0	2.65	4	0	0	0	
11	2021-11-24	11:59:45	4.416666667	1.11.0	Free_feed	1	0	0	0	6	1	0	0.18	1	0	0	0	
12	2021-11-24	11:59:46	4.433333333	1.11.0	Free_feed	1	0	0	0	7	1	0	0.44	1	0	0	0	
13	2021-11-24	12:00:20	5	1.11.0	Free_feed	1	0	0	0	7	0	0	0.44	1	0	0	0	
14	2021-11-24	12:01:20	6	1.11.0	Free_feed	0	0	0	0	7	0	0	0	1	0	0	0	
15	2021-11-24	12:02:20	7	1.11.0	Free_feed	0	0	0	0	7	0	0	0	1	0	0	0	
16	2021-11-24	12:03:20	8	1.11.0	Free_feed	0	0	0	0	7	0	0	0	1	0	0	0	
17	2021-11-24	12:04:20	9	1.11.0	Free_feed	0	0	0	0	7	0	0	0	1	0	0	0	
18	2021-11-24	12:05:20	10	1.11.0	Free_feed	0	0	0	0	7	0	0	0	0	1	0	0	
19	2021-11-24	12:06:20	11	1.11.0	Free_feed	0	0	0	0	7	0	0	0	0	1	0	0	
20	2021-11-24	12:07:20	12	1.11.0	Free_feed	0	0	0	0	7	0	0	0	0	1	0	0	
21	2021-11-24	12:07:30	12.166666667	1.11.0	Free_feed	1	0	0	0	8	1	0	60	464	0	0	0	
22	2021-11-24	12:07:36	12.266666667	1.11.0	Free_feed	1	0	0	0	9	1	0	5.31	6	0	0	0	
23	2021-11-24	12:07:38	12.3	1.11.0	Free_feed	1	0	0	0	10	1	0	0.88	2	0	0	0	
24	2021-11-24	12:08:20	13	1.11.0	Free_feed	1	0	0	0	10	0	0	0.88	2	0	0	0	
25	2021-11-24	12:09:20	14	1.11.0	Free_feed	0	0	0	0	10	0	0	0	2	0	0	0	
26	2021-11-24	12:10:20	15	1.11.0	Free_feed	0	0	0	0	10	0	0	0	0	2	0	0	
27	2021-11-24	12:11:14	15.9	1.11.0	Free_feed	1	0	0	0	11	1	0	60	216	0	0	0	
28	2021-11-24	12:11:20	16	1.11.0	Free_feed	1	0	0	0	11	0	0	60	216	0	0	0	
29	2021-11-24	12:12:20	17	1.11.0	Free_feed	0	0	0	0	11	0	0	0	216	0	0	0	
30	2021-11-24	12:13:20	18	1.11.0	Free_feed	0	0	0	0	11	0	0	0	216	0	0	0	
31	2021-11-24	12:14:20	19	1.11.0	Free_feed	0	0	0	0	11	0	0	0	216	0	0	0	
32	2021-11-24	12:15:20	20	1.11.0	Free_feed	0	0	0	0	11	0	0	0	216	0	0	0	
33	2021-11-24	12:16:20	21	1.11.0	Free_feed	0	0	0	0	11	0	0	0	216	0	0	0	
34	2021-11-24	12:16:29	21.15	1.11.0	Free_feed	1	0	0	0	12	1	0	60	315	0	0	0	

## Time bins sheet

Time bins for FED050\_112421\_02

	Date	Time	Time bins (mins)	Library Version	Session Type	Motor Turns	FR	Left Poke Count	Right Poke Count	Pellet Count	Pellet Count Change	Block Pellet Count	Retrieval Time	Interpellet Interval	Poke Time
2	2021-11-24	11:55:20	0 1.11.0	Free_feed	1 0	0	0	1	1	0	4.55	0	0	0	0
3	2021-11-24	11:56:20	1 1.	Free_feed	0 0	0	0	1	0	0	0	0	0	0	0
4	2021-11-24	11:57:20	2 1.	Free_feed	0 0	0	0	1	0	0	0	0	0	0	0
5	2021-11-24	11:58:20	3 1.	Free_feed	0 0	0	0	1	0	0	0	0	0	0	0
6	2021-11-24	11:59:20	4 1.11.0	Free_feed	0 0	0	0	1	0	0	0	0	0	0	0
7	2021-11-24	12:00:20	5 1.11.0	Free_feed	1 0	0	0	7	6	0	0.44	1	0	0	0
8	2021-11-24	12:01:20	6 1.11.0	Free_feed	0 0	0	0	7	0	0	0	0	1	0	0
9	2021-11-24	12:02:20	7 1.11.0	Free_feed	0 0	0	0	7	0	0	0	0	1	0	0
10	2021-11-24	12:03:20	8 1.11.0	Free_feed	0 0	0	0	7	0	0	0	0	1	0	0
11	2021-11-24	12:04:20	9 1.11.0	Free_feed	0 0	0	0	7	0	0	0	0	1	0	0
12	2021-11-24	12:05:20	10 1.11.0	Free_feed	0 0	0	0	7	0	0	0	0	1	0	0
13	2021-11-24	12:06:20	11 1.11.0	Free_feed	0 0	0	0	7	0	0	0	0	1	0	0
14	2021-11-24	12:07:20	12 1.11.0	Free_feed	0 0	0	0	7	0	0	0	0	1	0	0
15	2021-11-24	12:08:20	13 1.11.0	Free_feed	1 0	0	0	10	3	0	0.88	2	0	0	0
16	2021-11-24	12:09:20	14 1.11.0	Free_feed	0 0	0	0	10	0	0	0	0	2	0	0
17	2021-11-24	12:10:20	15 1.11.0	Free_feed	0 0	0	0	10	0	0	0	0	2	0	0
18	2021-11-24	12:11:20	16 1.11.0	Free_feed	1 0	0	0	11	1	0	60	216	0	0	0
19	2021-11-24	12:12:20	17 1.11.0	Free_feed	0 0	0	0	11	0	0	0	0	216	0	0
20	2021-11-24	12:13:20	18 1.11.0	Free_feed	0 0	0	0	11	0	0	0	0	216	0	0
21	2021-11-24	12:14:20	19 1.11.0	Free_feed	0 0	0	0	11	0	0	0	0	216	0	0
22	2021-11-24	12:15:20	20 1.11.0	Free_feed	0 0	0	0	11	0	0	0	0	216	0	0
23	2021-11-24	12:16:20	21 1.11.0	Free_feed	0 0	0	0	11	0	0	0	0	216	0	0
24	2021-11-24	12:17:20	22 1.11.0	Free_feed	1 0	0	0	14	3	0	0.06	6	0	0	0
25	2021-11-24	12:18:20	23 1.11.0	Free_feed	0 0	0	0	14	0	0	0	0	6	0	0
26	2021-11-24	12:19:20	24 1.11.0	Free_feed	0 0	0	0	14	0	0	0	0	6	0	0
27	2021-11-24	12:20:20	25 1.11.0	Free_feed	1 0	0	0	15	1	0	60	188	0	0	0
28	2021-11-24	12:21:20	26 1.11.0	Free_feed	1 0	0	0	16	1	0	57.12	58	0	0	0
29	2021-11-24	12:22:20	27 1.11.0	Free_feed	11 0	0	0	17	1	0	49.71	79	0	0	0
30	2021-11-24	12:23:20	28 1.11.0	Free_feed	0 0	0	0	17	0	0	0	0	79	0	0
31	2021-11-24	12:24:20	29 1.11.0	Free_feed	0 0	0	0	17	0	0	0	0	79	0	0
32	2021-11-24	12:25:20	30 1.11.0	Free_feed	0 0	0	0	17	0	0	0	0	79	0	0
33	2021-11-24	12:26:20	31 1.11.0	Free_feed	0 0	0	0	17	0	0	0	0	79	0	0
34	2021-11-24	12:27:20	32 1.11.0	Free_feed	0 0	0	0	17	0	0	0	0	79	0	0

Time bins

Pellet count changes

## Pellet count changes sheet

Time bins for FED050\_112421\_02

	Date	Time	Time (mins)	Library Version	Session Type	Motor Turns	FR	Left Poke Count	Right Poke Count	Pellet Count	Pellet Count Change	Block Pellet Count	Retrieval Time	Interpellet Interval	Poke Time
2	2021-11-24	11:55:20	0 1.11.0	Free_feed	1 0	0	0	1	1	0	4.55	0	0	0	0
3	2021-11-24	11:59:37	4.28333333 1.11.0	Free_feed	2 0	0	0	2	1	0	60	257	0	0	0
4	2021-11-24	11:59:38	4.3 1.11.0	Free_feed	1 0	0	0	3	1	0	0.18	1	0	0	0
5	2021-11-24	11:59:40	4.33333333 1.11.0	Free_feed	1 0	0	0	4	1	0	0.18	2	0	0	0
6	2021-11-24	11:59:44	4.4 1.11.0	Free_feed	1 0	0	0	5	1	0	2.65	4	0	0	0
7	2021-11-24	11:59:45	4.41666667 1.11.0	Free_feed	1 0	0	0	6	1	0	0.18	1	0	0	0
8	2021-11-24	11:59:45	4.43333333 1.11.0	Free_feed	1 0	0	0	7	1	0	0.44	1	0	0	0
9	2021-11-24	12:07:30	12.16666667 1.11.0	Free_feed	1 0	0	0	8	1	0	60	464	0	0	0
10	2021-11-24	12:07:36	12.26666667 1.11.0	Free_feed	1 0	0	0	9	1	0	5.31	6	0	0	0
11	2021-11-24	12:07:38	12.3 1.11.0	Free_feed	1 0	0	0	10	1	0	0.88	2	0	0	0
12	2021-11-24	12:11:14	15.9 1.11.0	Free_feed	1 0	0	0	11	1	0	60	216	0	0	0
13	2021-11-24	12:16:29	21.15 1.11.0	Free_feed	1 0	0	0	12	1	0	60	315	0	0	0
14	2021-11-24	12:16:31	21.18333333 1.11.0	Free_feed	1 0	0	0	13	1	0	0.06	2	0	0	0
15	2021-11-24	12:16:37	21.28333333 1.11.0	Free_feed	1 0	0	0	14	1	0	0.06	6	0	0	0
16	2021-11-24	12:19:45	24.41666667 1.11.0	Free_feed	1 0	0	0	15	1	0	60	188	0	0	0
17	2021-11-24	12:20:43	25.38333333 1.11.0	Free_feed	1 0	0	0	16	1	0	57.12	58	0	0	0
18	2021-11-24	12:22:02	26.7 1.11.0	Free_feed	11 0	0	0	17	1	0	49.71	79	0	0	0
19	2021-11-24	12:27:45	32.41666667 1.11.0	Free_feed	2 0	0	0	18	1	0	60	343	0	0	0
20	2021-11-24	12:32:11	36.85 1.11.0	Free_feed	1 0	0	0	19	1	0	60	266	0	0	0
21	2021-11-24	12:36:17	40.95 1.11.0	Free_feed	1 0	0	0	20	1	0	60	246	0	0	0
22	2021-11-24	12:36:50	41.5 1.11.0	Free_feed	6 0	0	0	21	1	0	14.94	33	0	0	0
23	2021-11-24	12:47:28	52.13333333 1.11.0	Free_feed	1 0	0	0	22	1	0	60	638	0	0	0
24	2021-11-24	12:47:58	52.63333333 1.11.0	Free_feed	2 0	0	0	23	1	0	20.27	30	0	0	0
25	2021-11-24	12:49:31	54.18333333 1.11.0	Free_feed	2 0	0	0	24	1	0	60	93	0	0	0
26	2021-11-24	12:50:24	55.06666667 1.11.0	Free_feed	1 0	0	0	25	1	0	47.4	53	0	0	0
27	2021-11-24	12:50:32	55.2 1.11.0	Free_feed	1 0	0	0	26	1	0	0.75	8	0	0	0
28	2021-11-24	12:54:14	58.9 1.11.0	Free_feed	2 0	0	0	27	1	0	60	221	0	0	0
29	2021-11-24	12:58:10	62.83333333 1.11.0	Free_feed	1 0	0	0	28	1	0	60	237	0	0	0
30	2021-11-24	12:59:25	64.08333333 1.11.0	Free_feed	1 0	0	0	29	1	0	60	75	0	0	0
31	2021-11-24	12:59:49	64.48333333 1.11.0	Free_feed	1 0	0	0	30	1	0	17.48	24	0	0	0
32	2021-11-24	13:09:24	74.06666667 1.11.0	Free_feed	1 0	0	0	31	1	0	60	575	0	0	0
33	2021-11-24	13:14:51	79.51666667 1.11.0	Free_feed	1 0	0	0	32	1	0	60	327	0	0	0
34	2021-11-24	13:15:19	79.98333333 1.11.0	Free_feed	2 0	0	0	33	1	0	25.73	28	0	0	0

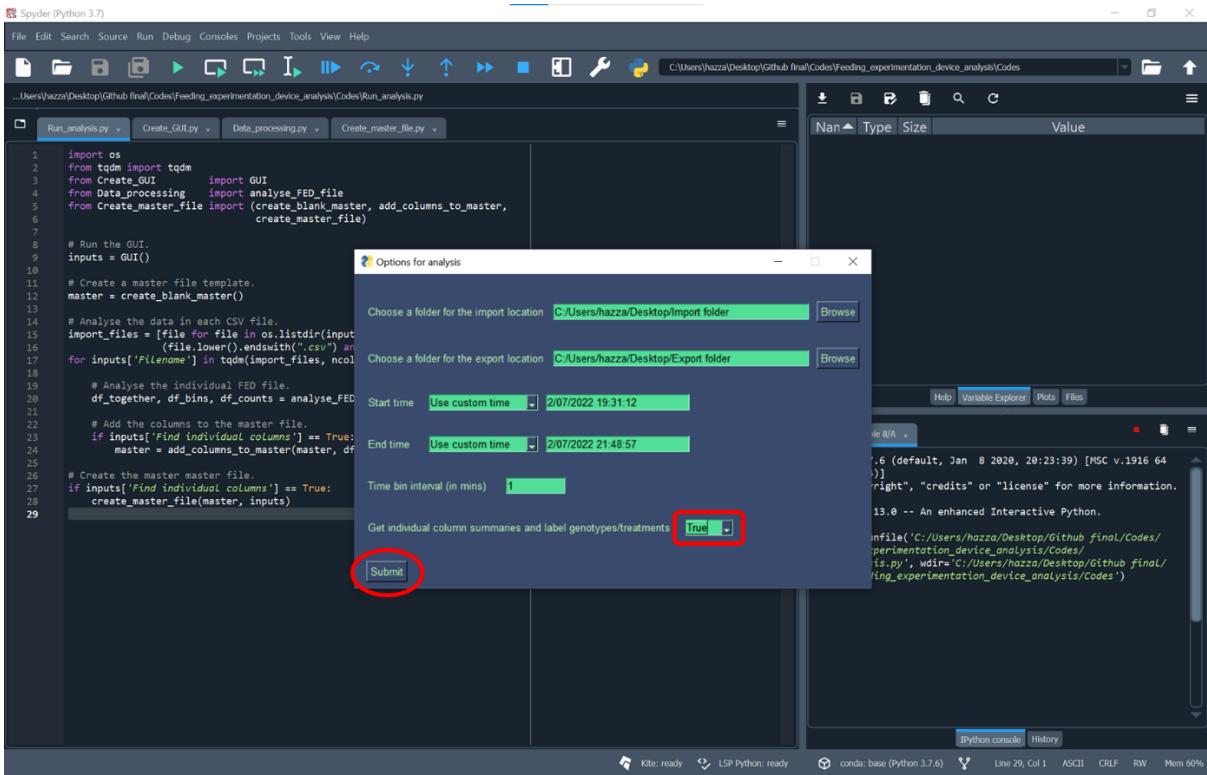
Time bins

Pellet count changes

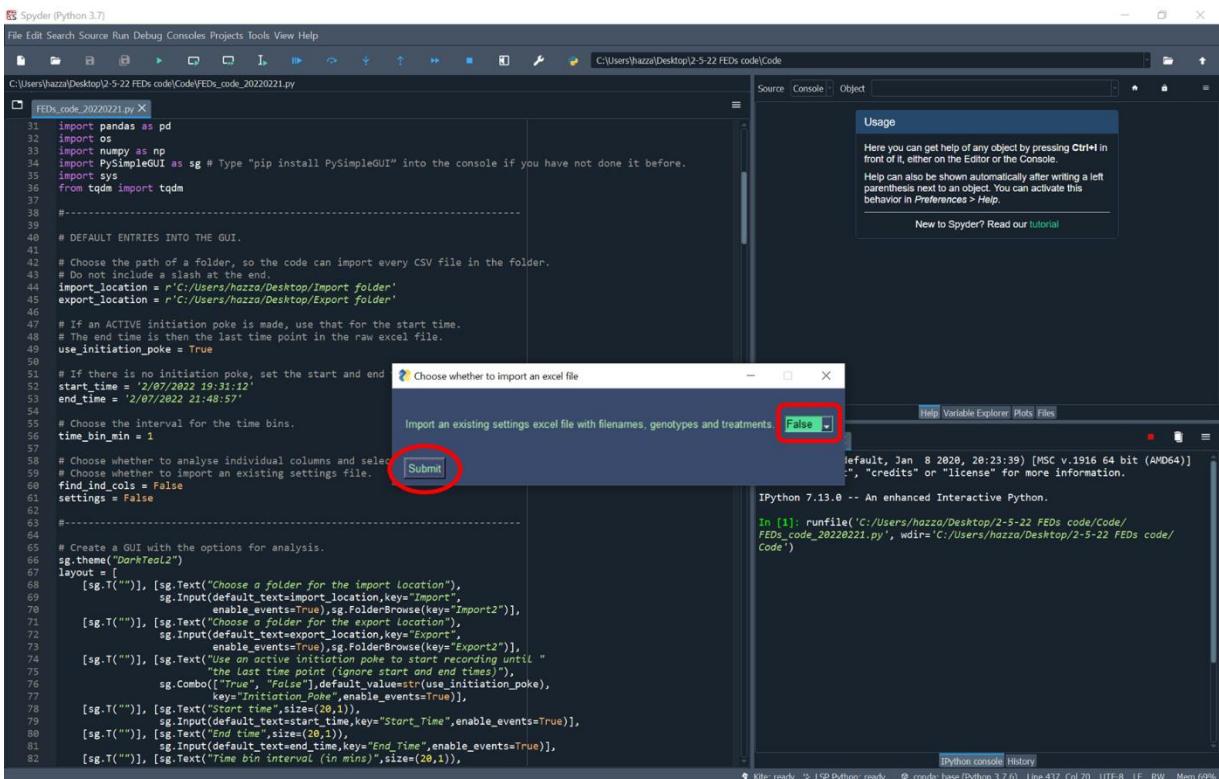
All data

Accessibility: Good to go

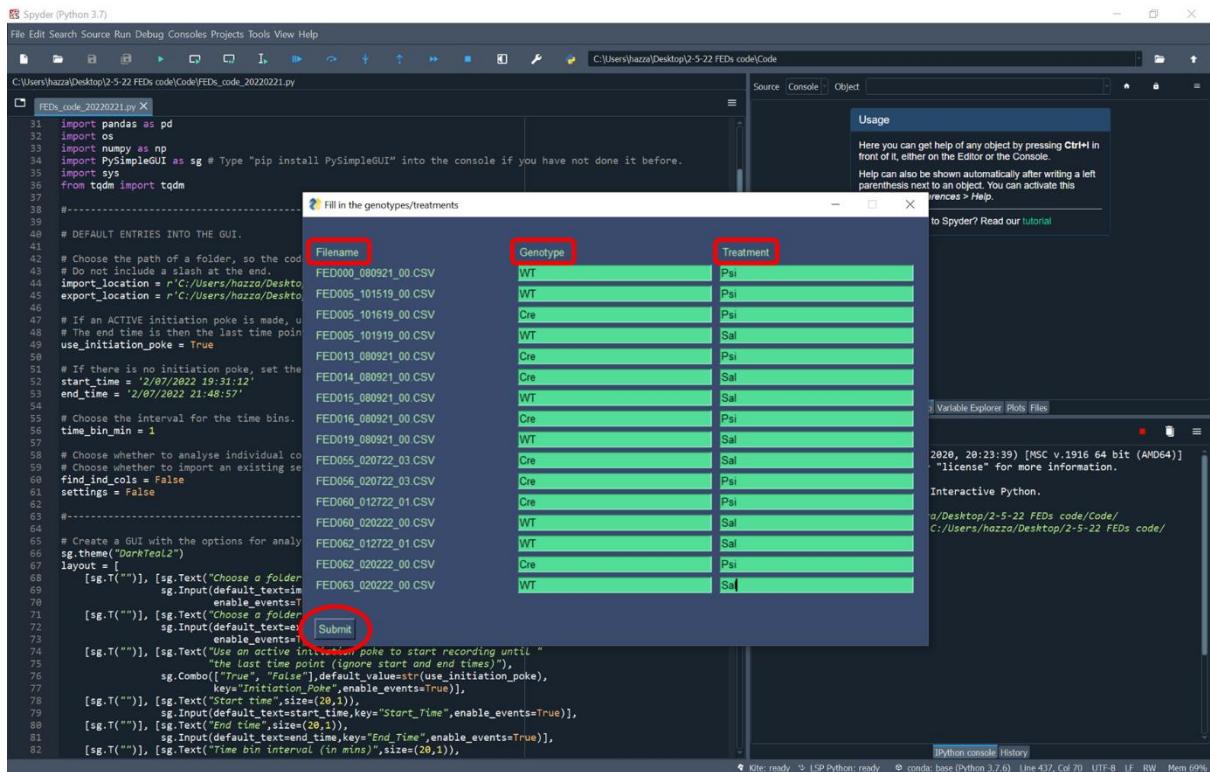
4. The option “get individual columns summaries” at the start of the GUI can also be used to create a master excel file, that combines the columns from all excel files. Note that the raw FED files should still be imported, not the time binned files.



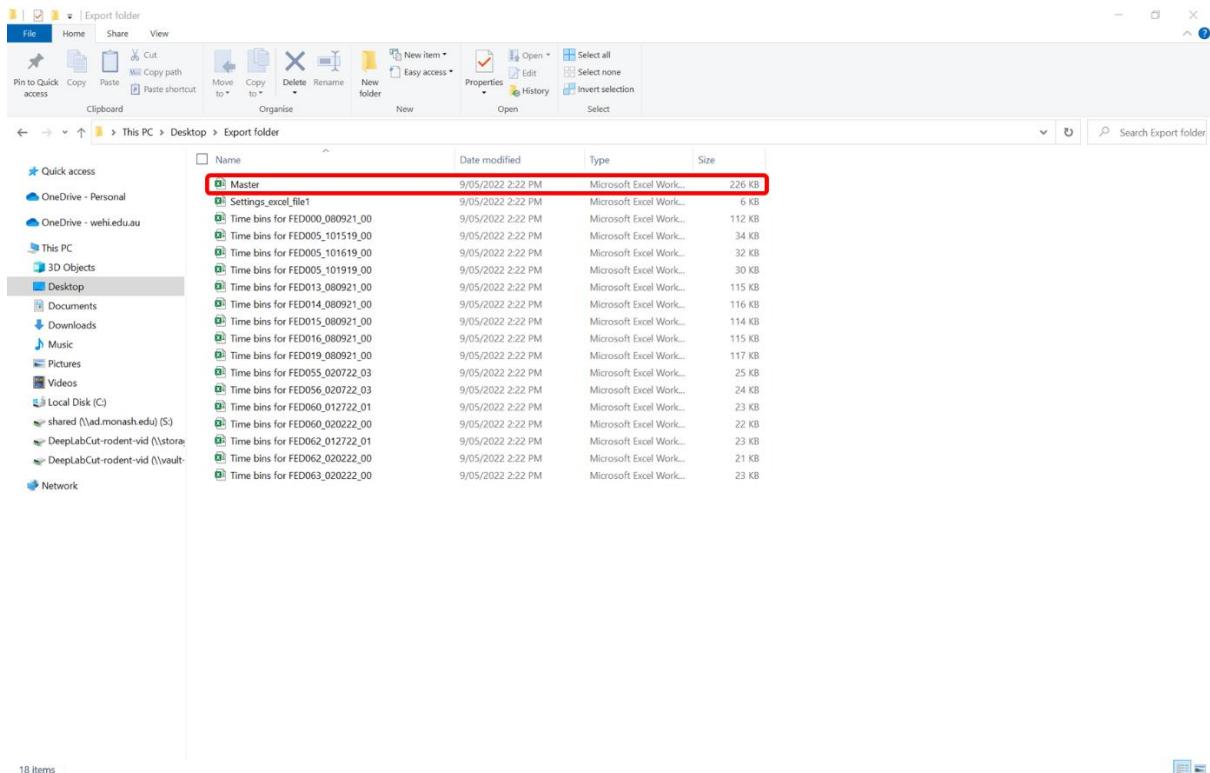
5. Set this option to False, if you want to put in the genotypes and treatments in the built-in GUI. Setting this option to True will be explained from step 14 onwards.



## 6. Put in the genotypes and treatments. These entries can also be left blank.



## 7. The individual excel files will be sorted into time bins and a “Master.xlsx” file will also be created.



8. Here is the Master.xlsx file. There is a sheet for every column in the raw data files. For example, in the “Left poke count” sheet selected below:

- The far left column is the time bins in minutes.
- Every other column is the “Left poke count” column from each of the imported files.
- The columns are also sorted by genotype and then treatment.
- This is the same for every sheet/column type.

The left poke count column for file FED062\_020222\_00.csv

There is a sheet for each column name

9. Another thing that is exported is the “settings\_excel\_file.xlsx”. Note that every time a settings excel file is created, a unique number is added to the end, so you will never overwrite this file.

10. This saves the options for the genotypes and treatments.

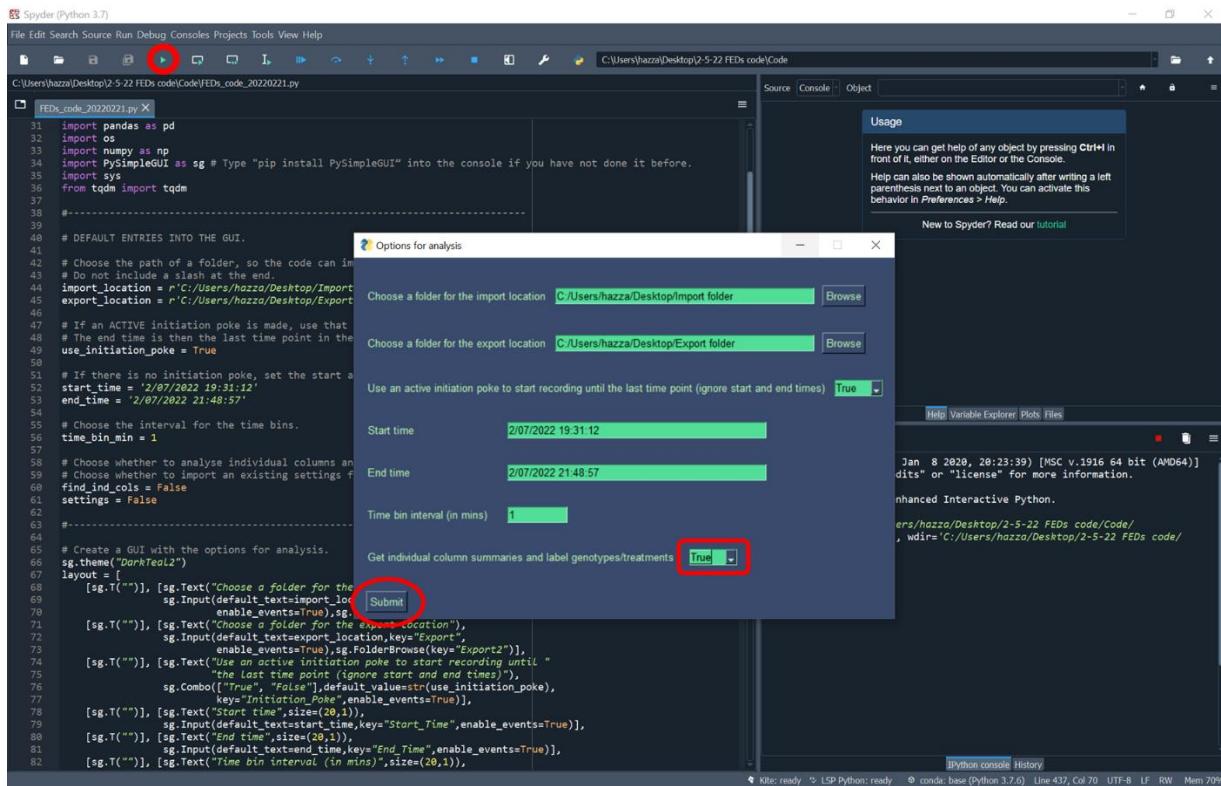
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Filename	Genotype	Treatment																		
2	FED000_080921_00.CSV	WT	Psi																		
3	FED005_101519_00.CSV	WT	Psi																		
4	FED005_101619_00.CSV	Cre	Psi																		
5	FED005_101919_00.CSV	WT	Sal																		
6	FED013_080921_00.CSV	Cre	Psi																		
7	FED014_080921_00.CSV	Cre	Sal																		
8	FED015_080921_00.CSV	WT	Sal																		
9	FED016_080921_00.CSV	Cre	Psi																		
10	FED019_080921_00.CSV	WT	Sal																		
11	FED055_020722_03.CSV	Cre	Sal																		
12	FED056_020722_03.CSV	Cre	Psi																		
13	FED060_012722_01.CSV	Cre	Psi																		
14	FED060_020222_00.CSV	WT	Sal																		
15	FED062_012722_01.CSV	WT	Sal																		
16	FED062_020222_00.CSV	Cre	Psi																		
17	FED063_020222_00.CSV	WT	Sal																		
18																					
19																					
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11. The filenames, genotypes and treatments can also be edited and re-imported. Note that the bold text and borders are not important for reading the file.

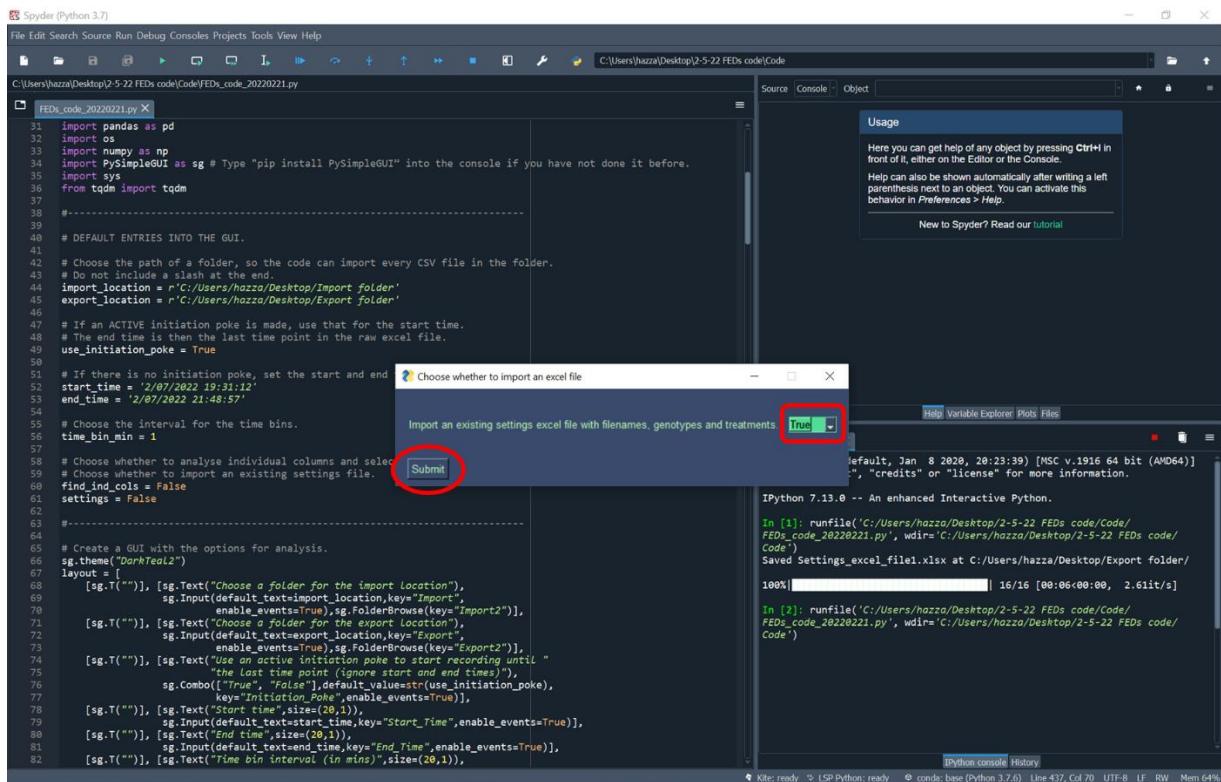
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Filename	Genotype	Treatment																		
2	FED000_080921_00.CSV	HET	Ghr																		
3	FED005_101519_00.CSV	HOM	Ghr																		
4	FED005_101619_00.CSV	HOM	Sal																		
5	FED005_101919_00.CSV	HOM	Sal																		
6	FED013_080921_00.CSV	HET	Ghr																		
7	FED014_080921_00.CSV	HOM	Ghr																		
8	FED015_080921_00.CSV	HOM	Ghr																		
9	FED016_080921_00.CSV	HET	Sal																		
10	FED019_080921_00.CSV	HET	Sal																		
11	FED055_020722_03.CSV	HET	Sal																		
12	FED056_020722_03.CSV	HOM	Ghr																		
13	FED060_012722_01.CSV	HET	Sal																		
14	FED060_020222_00.CSV	HOM	Ghr																		
15	FED062_012722_01.CSV	HOM	Sal																		
16	FED062_020222_00.CSV	HOM	Sal																		
17	FED063_020222_00.CSV	HET	Ghr																		
18																					
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Edited

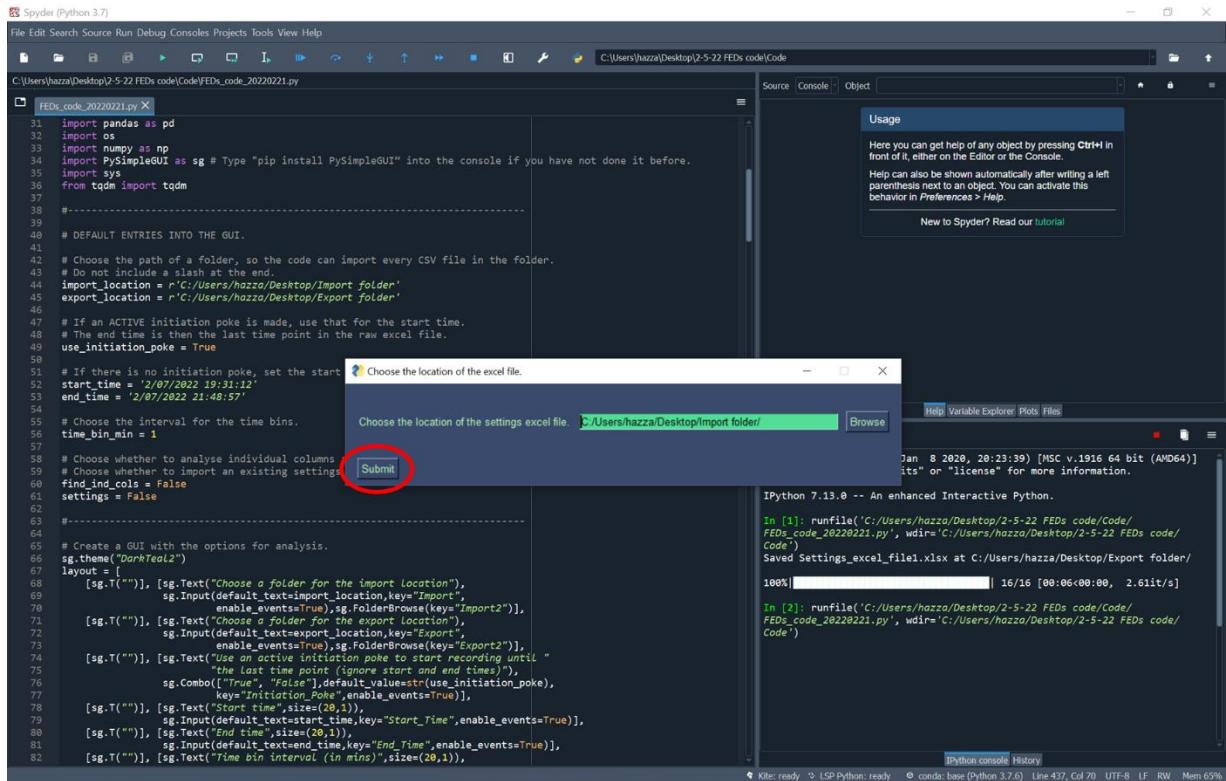
12. Re-run the code by pressing the green triangle and ensure “get individual column summaries” is set to True.



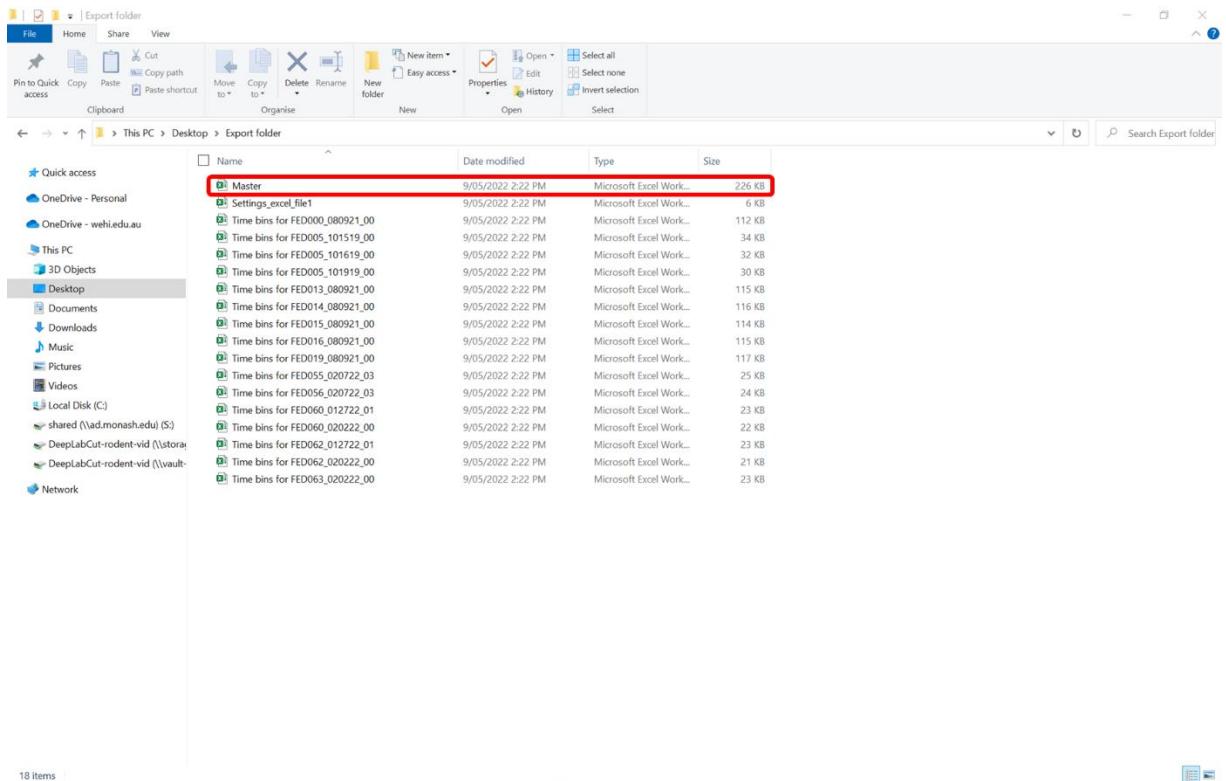
13. Set “import an existing settings excel file” to True.



#### 14. Choose the location of the settings excel file and click submit.



#### 15. Now when you go into the re-exported Master.xlsx file...



16. The genotypes and treatments are edited.

The screenshot shows a Microsoft Excel spreadsheet with the following structure:

- Row 1:** Headers for "Time bins (mins)" followed by a long string of session IDs: 080921\_080921\_020222\_080921\_080921\_020722\_012722\_101519\_080921\_080921\_020722\_020222\_101619\_101919\_012722\_020222\_00.CSV.
- Row 2:** Headers for "Genotype" (HET/HOM) and "Treatment" (Ghr/Sal).
- Row 3:** Sub-headers for each genotype/treatment combination: HET Ghr, HET Ghr, HET Sal, HET Sal, HET Ghr, HET Ghr, HOM Ghr, HOM Ghr, HOM Sal, HOM Sal, HOM Ghr, HOM Ghr, HOM Sal, HOM Sal.
- Rows 4-34:** Data entries for each row, corresponding to the session ID in Row 1. Each row contains 14 values (7 pairs of HET/Ghr and 7 pairs of HOM/Ghr).
- Bottom Row:** Session Type (FR), Left Poke Count, Right Poke Count, Pellet Count, Block Pellet Count, Retrieval Time, Interpell ...
- Status Bar:** Shows "Edited" status.