Documentation - Monitor Mac's Battery Health

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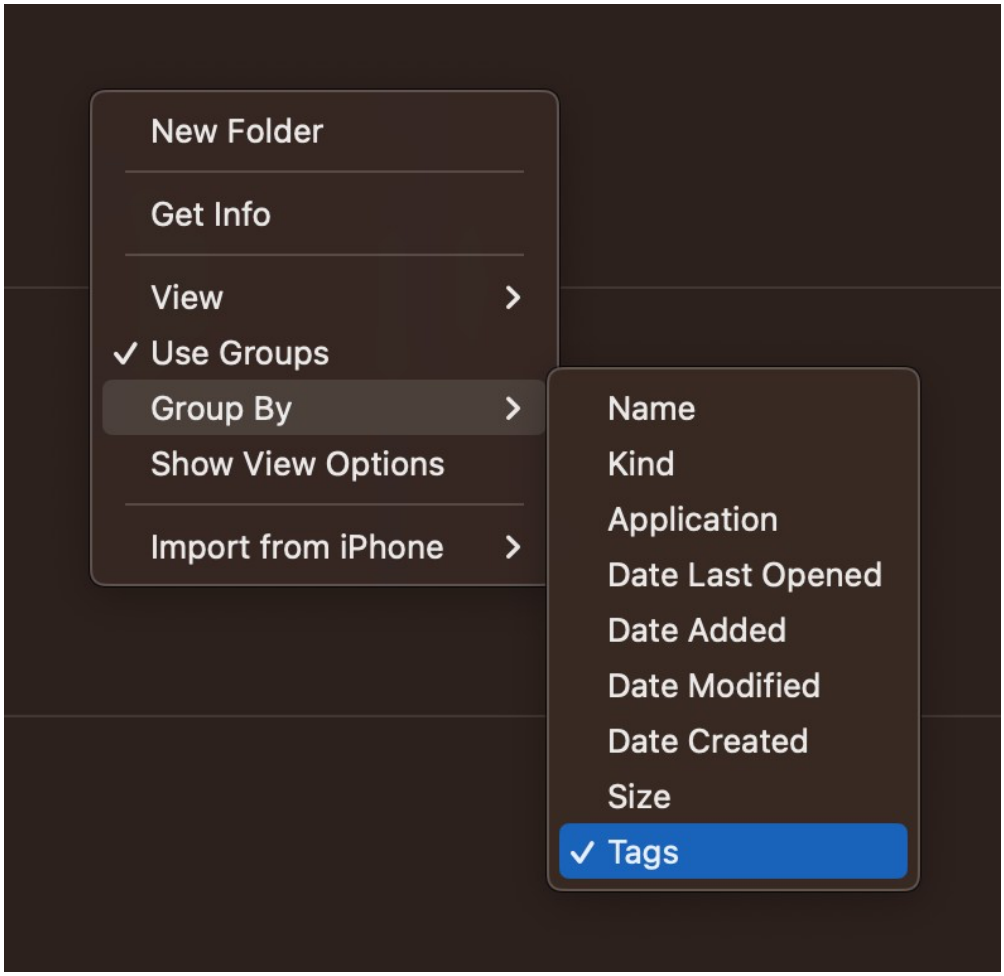
1. Clone monitor-battery-health and navigate to the folder

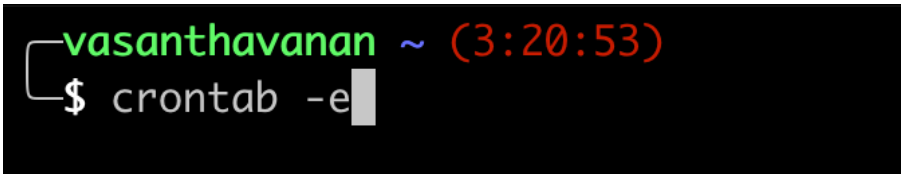
- Place the cloned folder in the home directory (~/monitor-battery-health)
- Files are categorized based on tags
- select the groups option to group by tags



- **Blue** —> Automation app to fetch current cycle count (Cycle Count.app)
- **Green** —> shell script to automate the scripts (mycron.sh)
- **Red** —> main python scripts (BatteryLifeDays.py, cycleStatus.py, Analysis.py, monitorBattery.py)
- **Yellow** —> log files (cycleStatus.log, fiveMinjob.log, tenMinjob.log)

2. Automate monitorBattery python script using crontab

- Open terminal and type **crontab -e** to edit the cron file

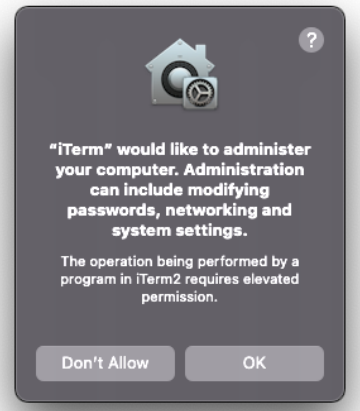


- Press **i** on the keyboard to edit the file
- add any of the following line based on your preferences:

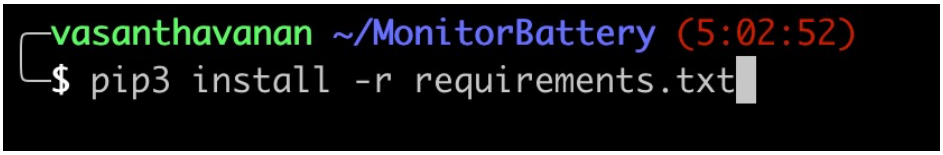
  ***/10 * * * * cd ~/ monitor-battery-health && ./mycron.sh (if 10 minutes)**

  ***/5 * * * * cd ~/ monitor-battery-health && ./mycron.sh (if 5 minutes)**

- This will run the monitorBattery python script every 5/10 minutes
- Once done, Press **escape** and type **:wq** and press enter
- To see the changes, type **crontab -l** to list the existing automation
- If your terminal asks permission to save the file, click OK

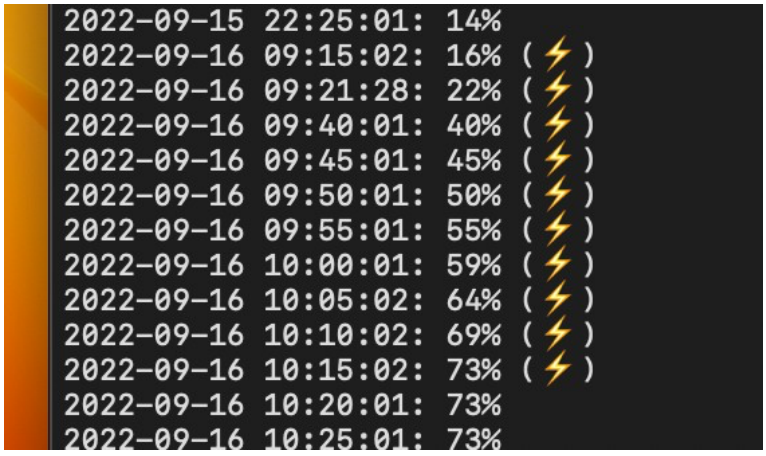


- Install all the requirements before running any scripts. Go to MonitorBattery Directory in Home folder and run:

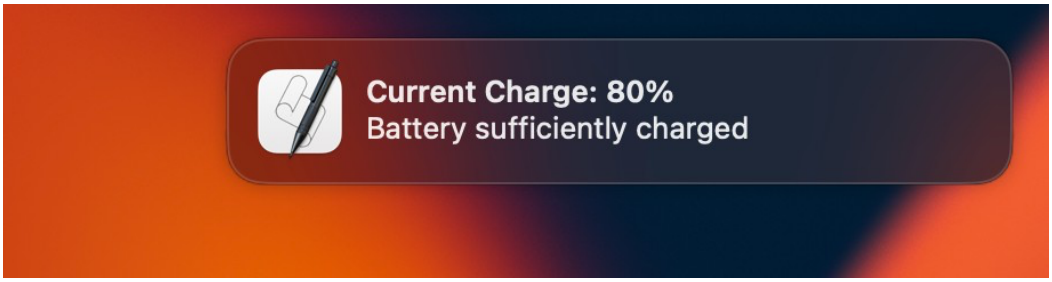


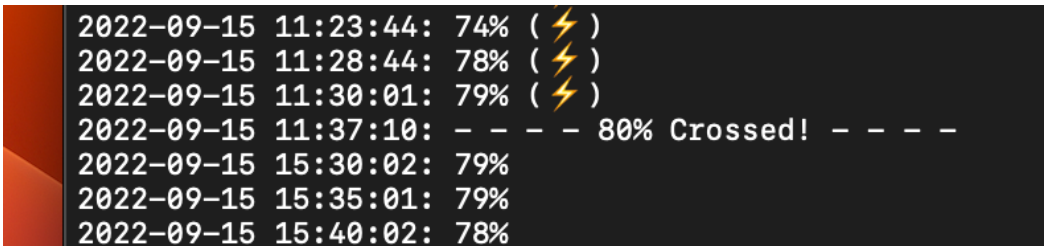
3. Monitor log history

- Battery usage will be populated with a timestamp every 5 minutes in **fiveMinjob.log** (tenMinjob.log in case of 10 minutes)
- Open the file in the console application and view the ongoing execution response from the script.
- A timestamp will be initiated with 1970-01-01 at the beginning which represents the start of the execution.
- If charging, a lightning symbol will be shown next to the respective log

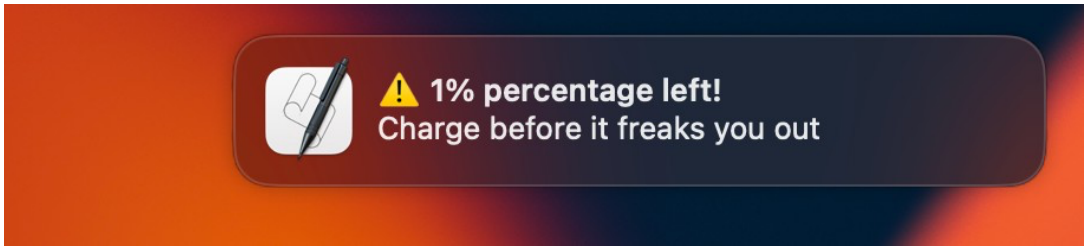


- If the charge crosses 80%, a notification will be provided by the system and "**80% crossed"** text will be appended to the log file.



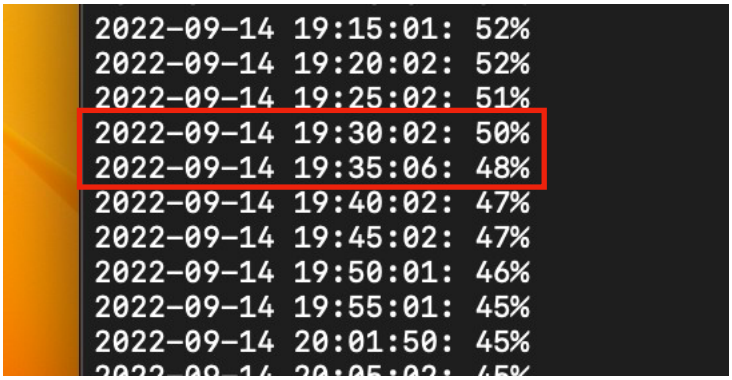


- Now, you can unplug the cable to avoid charging over 80%. Having this routine over the course of time will increase the gradual life expectancy of the battery health.
- Similarly, if the charge goes down to 1%, the script will notify the user with an alert notification.

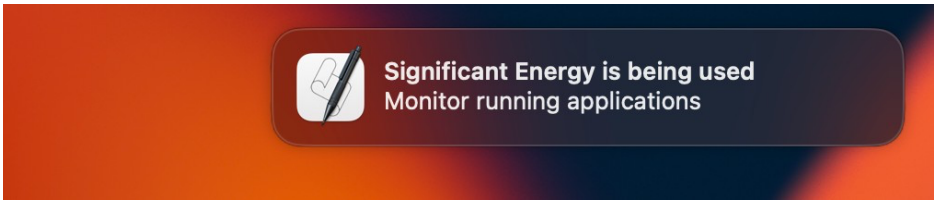


4: Monitor Energy usage

- If there is a difference of **2%** between the two timestamps, then it concludes that there is significant energy being used by the laptop.
- The difference can be customized based on user's battery life condition.



- Eventually, the python script will identify and notify the user with an alert.



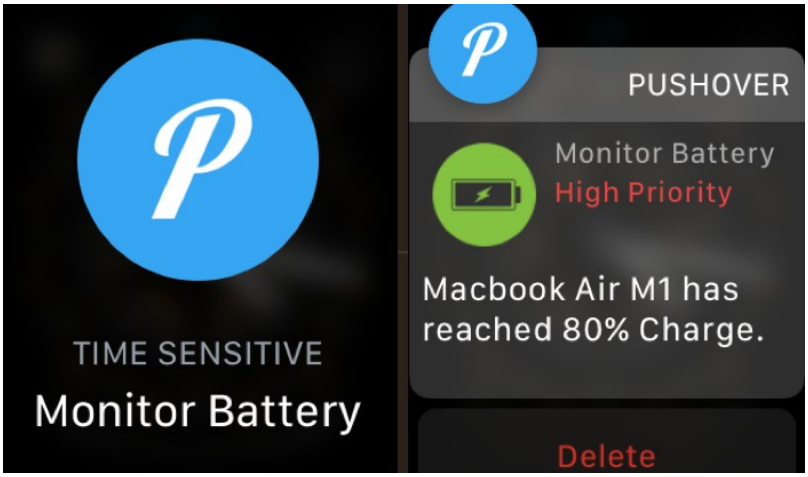
- You can configure the difference in the python script using the **intervalValue** variable in line 42: monitorBattery.py file

```
36
37  # ------ Variable Assignment by user --------
38
39  isMuted = False
40  apiToken = None
41  userToken = None
42  intervalValue = 3
43
44  # ----------------------------------------------
```

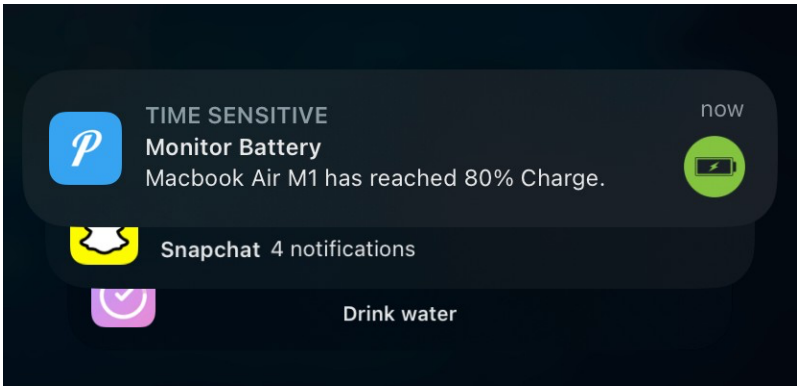
- If MacBook is idle and inactive for a few minutes, it will turn to sleep mode and the user may not be able to see the appropriate notification provided by the python script.
- In that case, users can make use of **PushOver**: an application which provides push notifications using API calls.
- **Note:** This is optional. The script can run without this feature too.
- Once you log in to PushOver, you will receive an **API** token and a **User** token
- Provide the string value in line 40 and line 41 replacing **None**.

```
38
39  isMuted = False
40  apiToken = 'YOUR-API-KEY'
41  userToken = 'YOUR-USER-KEY'
42  intervalValue = 2
43
```

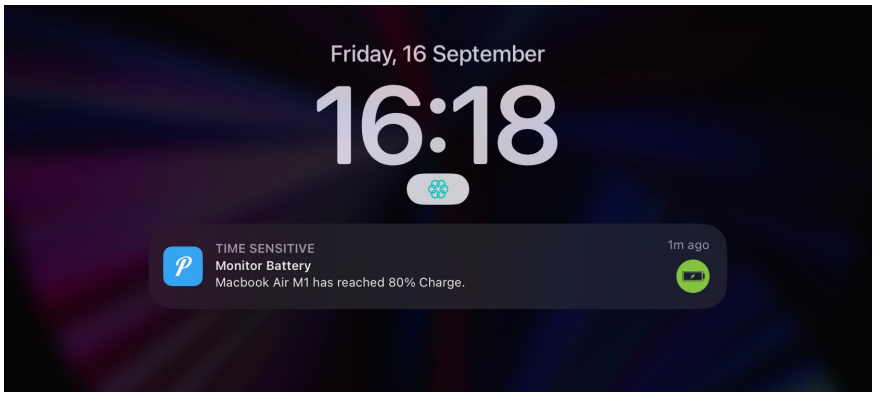
- This will provide notifications instantly to all signed-in devices like Apple iPad, iPhone, Watch and Mac respectively. (This differs based on your subscription towards Pushover)
- Apple Watch:



- Apple iPhone:

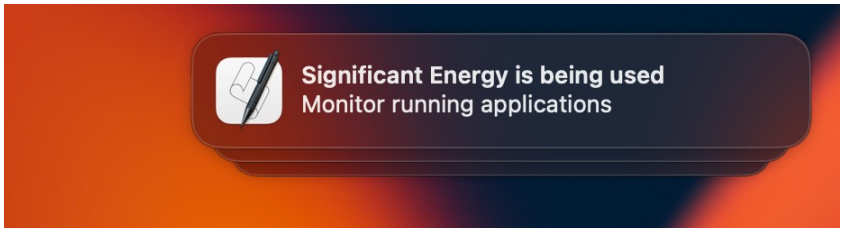


- Apple iPad:

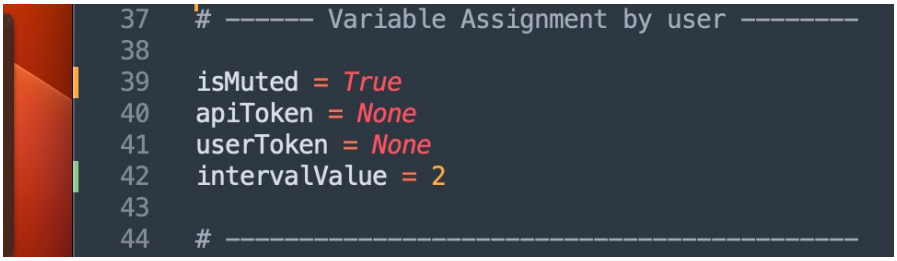


5: Manage annoying notifications

- Sometimes if you render video or 3D image, extensive core efficiency and performance will be used which results in quick battery consumption.
- Notification will be thrown every 5 minutes which would be annoying to users as shown below.

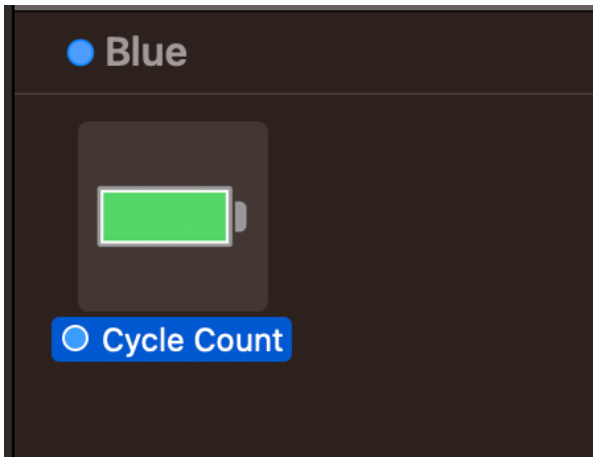


- If you want to disable notification for some time, enable the **isMuted** variable to **True** in line 39. Toggle back to False to bring back the notification feature.

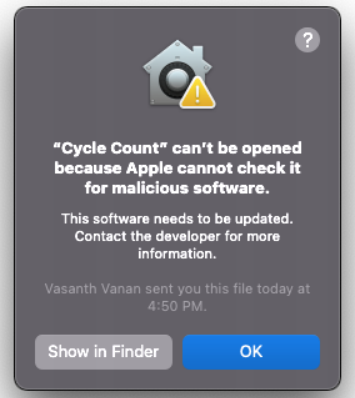


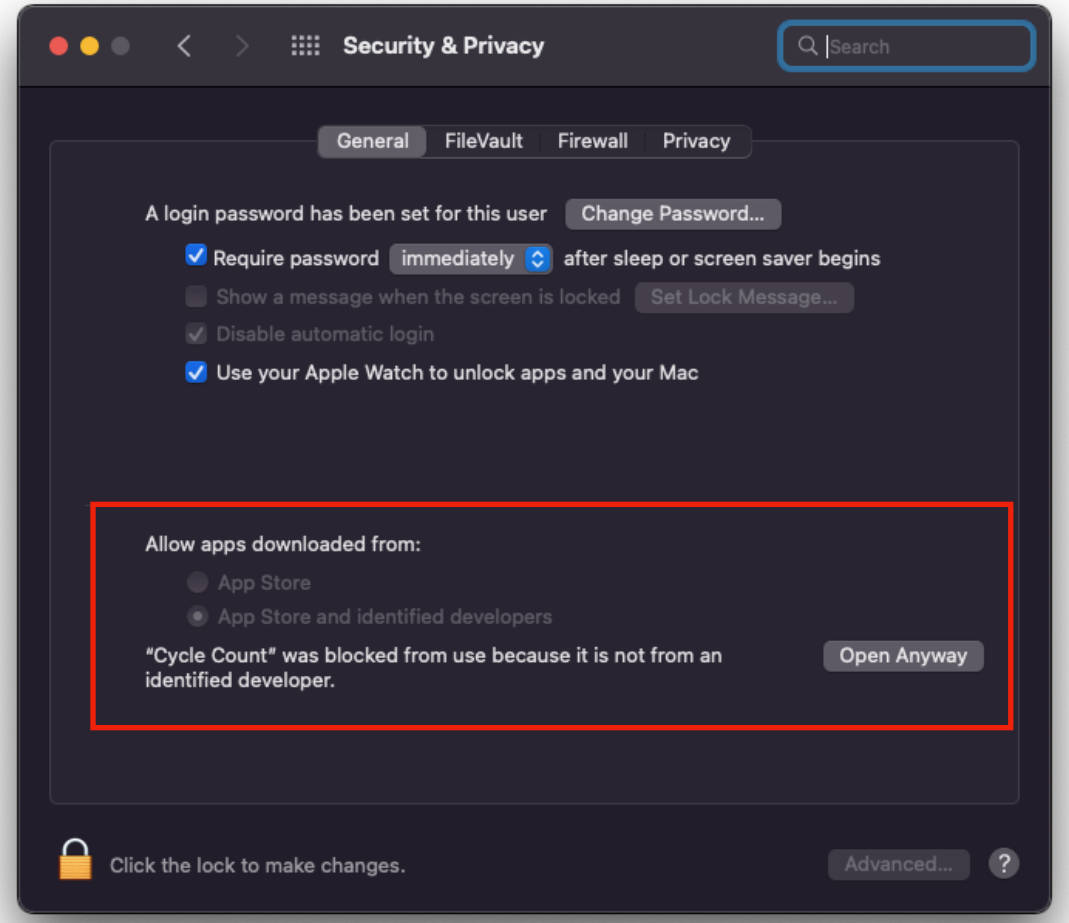
6: Fetch Current Cycle Count

- Open Cycle Count — Automation App

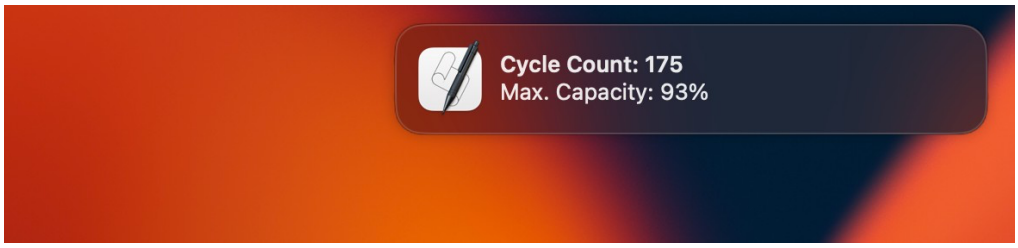


- Apps other than those downloaded from App Store will be generally blocked by MacBooks. But, It can be configured in settings. please select **Open Anyway** in Security & Privacy to run it.

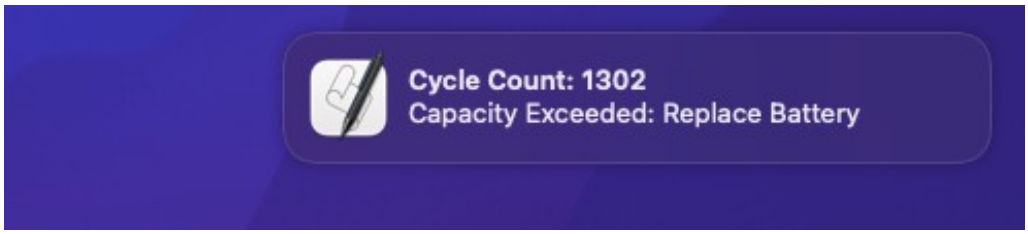




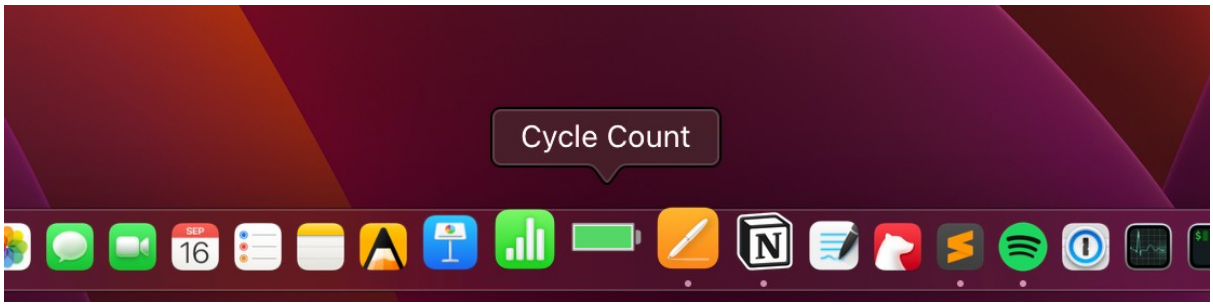
- Once fixed, A notification will be popped up with the cycle count information.



  - If the Cycle count exceeds **1000**, a different Notification will be displayed

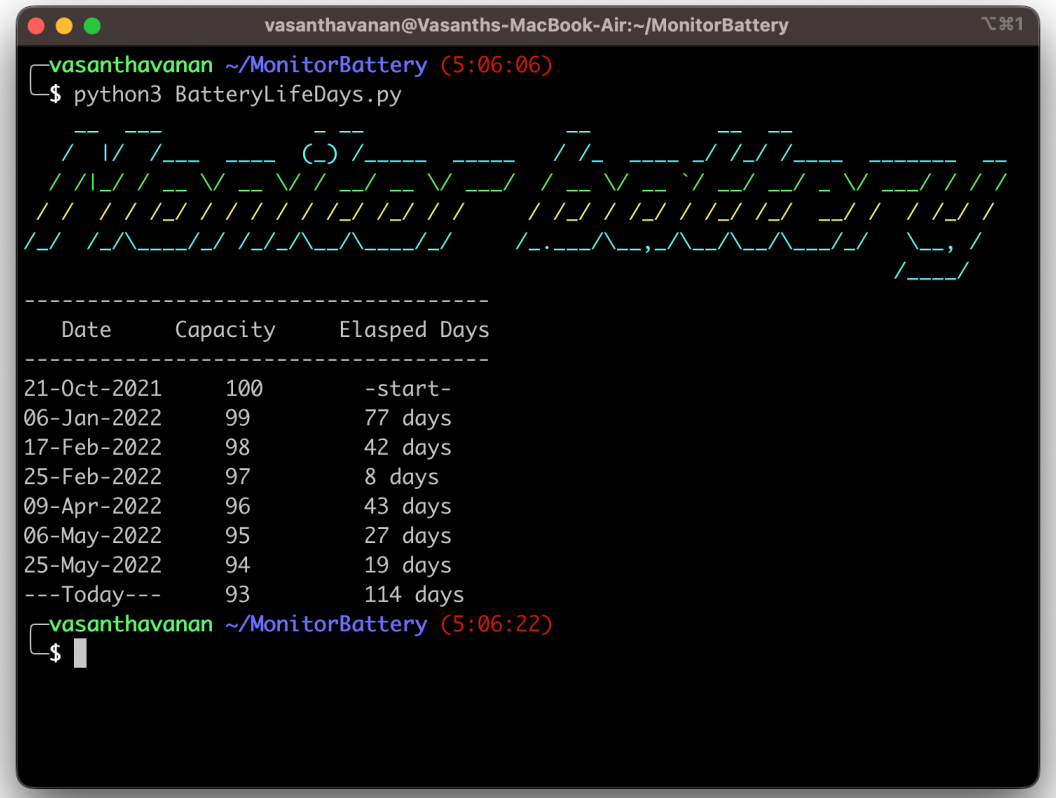


- **Note:** This is not automated. It will be triggered if the “Cycle Count” app is clicked.
- You can drag the application to Dock to run whenever needed.



7: Analysis on Number of lasting days for each cycle count

- Run **python3 BatteryLifeDays.py** in **~/MonitorBattery** folder to know the statistics of your MacBook’s Battery performance.
- **Note**: the more you use the Cycle Count application, the more data you will see on the table.



- Maximum Capacity for a MacBook battery can be 80%. This statistics clearly shows the number of days elapsed for each percentage.
- Monitor your MacBook's Battery for a long-lasting service. Good Luck!

Further Enquires & Support:

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