

ML #0



TAs

ml2016ta@gmail.com

Outline

1. 加簽規則
2. Github設定
3. QA

加簽規則

1. 加簽人數太多，需要控制修課人數。
2. 需在今晚22:00之前完成hw0，才有機會修課，未完成者無法加簽。
3. 批改完之後會在隔天早上8:00之前寄出授權碼至學校信箱，請務必在中午前完成加簽。
 - a. 收信時會收到一份文件及全部授權碼的照片，授權碼都有編號，請在文件中找到自己的學號以及對應的編號，並依照編號找到對應的授權碼並加簽。

hw0

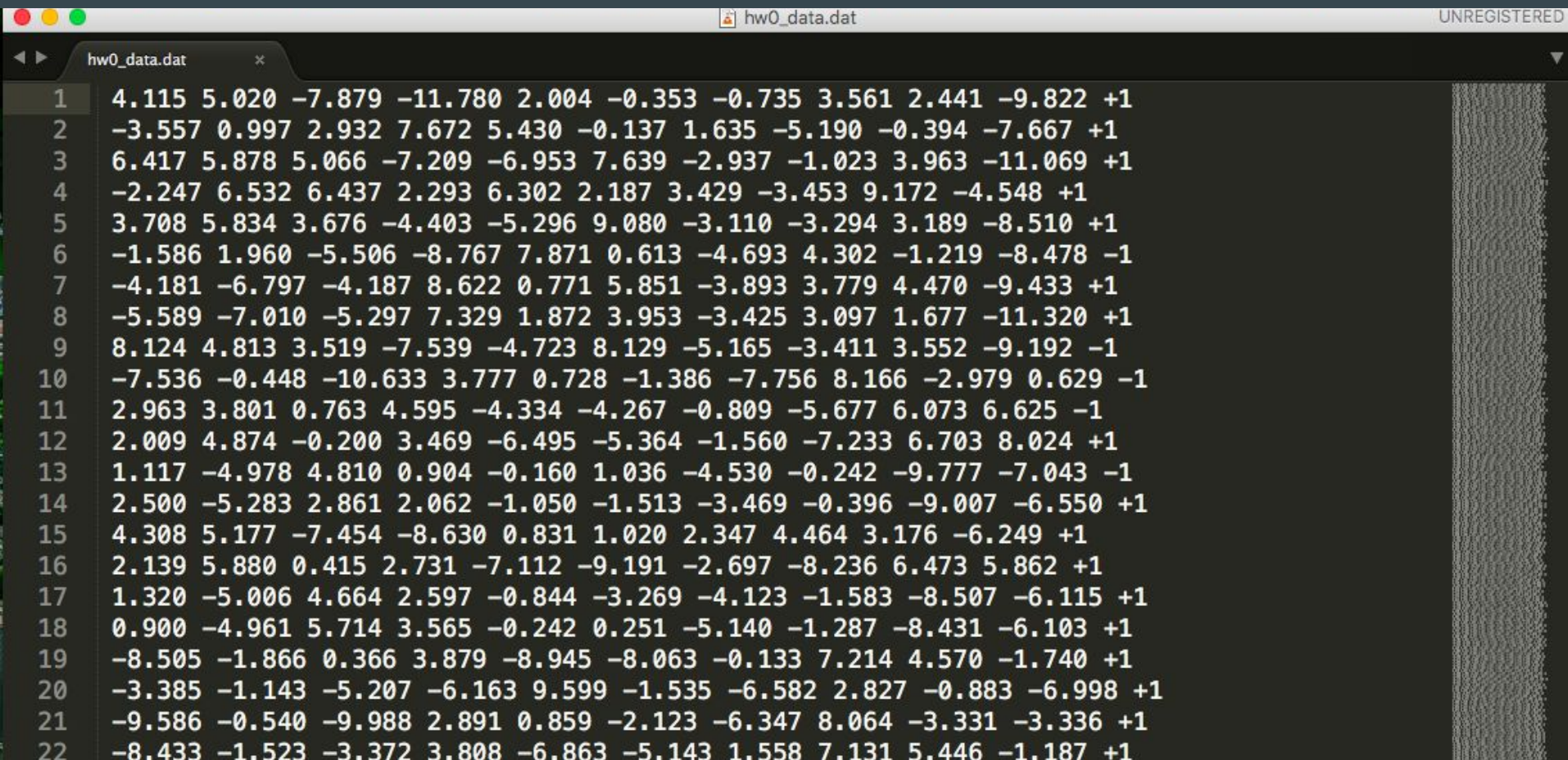
- ❖ 在處理機器學習應用時常會需要讀檔，因此hw0希望確認大家會基本的讀檔。
- ❖ 往後的作業會用github繳交，每位同學要有github帳號並將repository設為private。
- ❖ 請依照規定格式繳交，若是格式不符視同錯誤，請不要來跟助教爭論。

hw0

0. 申請好github 帳號。
1. 輸入hw0_data.dat, 請將指定column由小排到大並印出來。
 - a. column的index從0開始
 - b. 輸出一行, 以逗點分隔。ex: 0,0,1,2,3,4,5
2. 輸入一張圖, 將圖上下顛倒, 左右相反(旋轉180度)。
 - 排序或是翻轉圖片可以使用任何現成的工具。ex: numpy

hw0_data.dat

檔案以空白分隔，一共有11個column，第一題希望大家的程式能夠指定column並輸出排列後的結果。



1	4.115	5.020	-7.879	-11.780	2.004	-0.353	-0.735	3.561	2.441	-9.822	+1
2	-3.557	0.997	2.932	7.672	5.430	-0.137	1.635	-5.190	-0.394	-7.667	+1
3	6.417	5.878	5.066	-7.209	-6.953	7.639	-2.937	-1.023	3.963	-11.069	+1
4	-2.247	6.532	6.437	2.293	6.302	2.187	3.429	-3.453	9.172	-4.548	+1
5	3.708	5.834	3.676	-4.403	-5.296	9.080	-3.110	-3.294	3.189	-8.510	+1
6	-1.586	1.960	-5.506	-8.767	7.871	0.613	-4.693	4.302	-1.219	-8.478	-1
7	-4.181	-6.797	-4.187	8.622	0.771	5.851	-3.893	3.779	4.470	-9.433	+1
8	-5.589	-7.010	-5.297	7.329	1.872	3.953	-3.425	3.097	1.677	-11.320	+1
9	8.124	4.813	3.519	-7.539	-4.723	8.129	-5.165	-3.411	3.552	-9.192	-1
10	-7.536	-0.448	-10.633	3.777	0.728	-1.386	-7.756	8.166	-2.979	0.629	-1
11	2.963	3.801	0.763	4.595	-4.334	-4.267	-0.809	-5.677	6.073	6.625	-1
12	2.009	4.874	-0.200	3.469	-6.495	-5.364	-1.560	-7.233	6.703	8.024	+1
13	1.117	-4.978	4.810	0.904	-0.160	1.036	-4.530	-0.242	-9.777	-7.043	-1
14	2.500	-5.283	2.861	2.062	-1.050	-1.513	-3.469	-0.396	-9.007	-6.550	+1
15	4.308	5.177	-7.454	-8.630	0.831	1.020	2.347	4.464	3.176	-6.249	+1
16	2.139	5.880	0.415	2.731	-7.112	-9.191	-2.697	-8.236	6.473	5.862	+1
17	1.320	-5.006	4.664	2.597	-0.844	-3.269	-4.123	-1.583	-8.507	-6.115	+1
18	0.900	-4.961	5.714	3.565	-0.242	0.251	-5.140	-1.287	-8.431	-6.103	+1
19	-8.505	-1.866	0.366	3.879	-8.945	-8.063	-0.133	7.214	4.570	-1.740	+1
20	-3.385	-1.143	-5.207	-6.163	9.599	-1.535	-6.582	2.827	-0.883	-6.998	+1
21	-9.586	-0.540	-9.988	2.891	0.859	-2.123	-6.347	8.064	-3.331	-3.336	+1
22	-8.433	-1.523	-3.372	3.808	-6.863	-5.143	1.558	7.131	5.446	-1.187	+1

Q2

Input



Output



繳交格式

`./Q1.sh 3 file.dat` (第一個是column的index, 第二個是檔案)

輸出檔名: `ans1.txt`

`./Q2.sh image` (image是輸入的圖)

輸出檔名: `ans2.png`

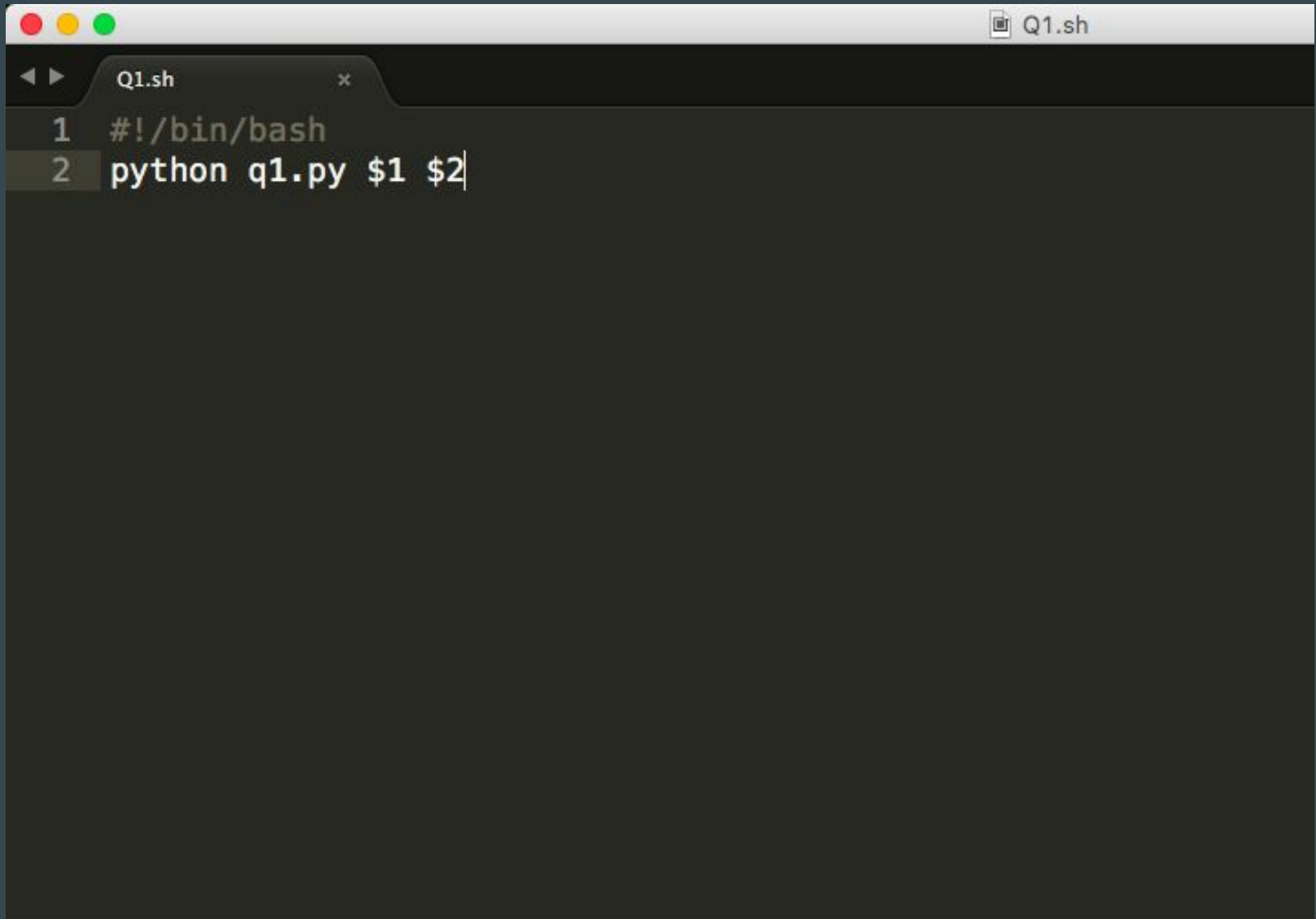
將這兩個script以及你的程式放在ML2016/hw0/底下

ML2016是助教改作業的repository, hw0是本次作業的資料夾名稱, 請大家將作業放在正確的地方。

填Git Repo URL表單: <https://goo.gl/xKccus>

hw0 data: <https://goo.gl/DJXFCf>

./Q1.sh - Example



```
1 #!/bin/bash
2 python q1.py $1 $2
```

Github

開設 github 帳號

1. github: <https://github.com/> 使用學校信箱開帳號
 - a. 學校信箱可免費使用private功能
 - b. 可綁定多個信箱
2. 申請學生版的附加功能
 - a. 網址: <https://education.github.com/>
 - b. 點選 Request a discount
 - c. 輸入資料, 靜候佳音

step 1. 進入網址

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TEACH AND LEARN
BETTER, TOGETHER

Request a discount



STUDENT DEVELOPER PACK



Get the Student Developer Pack

Dozens of free resources from great companies to help students learn.

Get the pack

STORIES

step 2. 填入資料

Discounted and free plans are available for educational use

You have an active discount on your account. If your current coupon is still active when this request is approved, it will be replaced. There should be no lapse in access to any of your private repositories.

Step 1

Tell us what you need

Step 2

Tell us about you

Name

Verify academic status

Select your **school-issued email address**:

If your school-issued email address isn't listed, please [add and verify it](#), then refresh this page.

School name

Graduation year

step 3. 静候佳音

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作業繳交

1. New repository
 - a. 請將名稱取為ML2016
 - b. 往後所有的作業程式都會在這個路徑下被批改
 - c. 權限請設為private
2. 將助教帳號加入存取權
 - a. 名稱: ML2016TA

Create a new repository

A repository contains all the files for your project, including the revision history.


Owner

Repository name

Great repository names are short and memorable. Need inspiration? How about **fuzzy-giggle**.

Description (optional)

☐  **Public**
Anyone can see this repository. You choose who can commit.

☒  **Private**
You choose who can see and commit to this repository.

☐ **Initialize this repository with a README**

This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: **None** ▼

Add a license: **None** ▼



Create repository



This repository Search

Pull requests Issues Gist



/ ML2016 Private

Watch 0

Star 0

Fork 0

Code

Issues 0

Pull requests 0

Projects 0

Wiki

Pulse

Graphs

Settings

Options

Collaborators

Webhooks

Integrations & services

Deploy keys

Collaborators

Push access to the repository

This repository doesn't have any collaborators yet. Use the form below to add a collaborator.

Search by username, full name or email address

ML2016TA

Add collaborator



ML2016TA



Get Your Git Repo URL

GitHub interface showing the repository **ML2016TA / ML2016** (Private). The repository has 0 Watchers, 0 Stars, and 0 Forks. The navigation bar includes links for Pull requests, Issues, and Gist. The repository's main navigation bar shows Code, Issues (0), Pull requests (0), Projects (0), Wiki, Pulse, Graphs, and Settings.

Quick setup — if you've done this kind of thing before

Set up in Desktop or **HTTPS** **SSH** `git@github.com:ML2016TA/ML2016.git`

We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#).

...or create a new repository on the command line

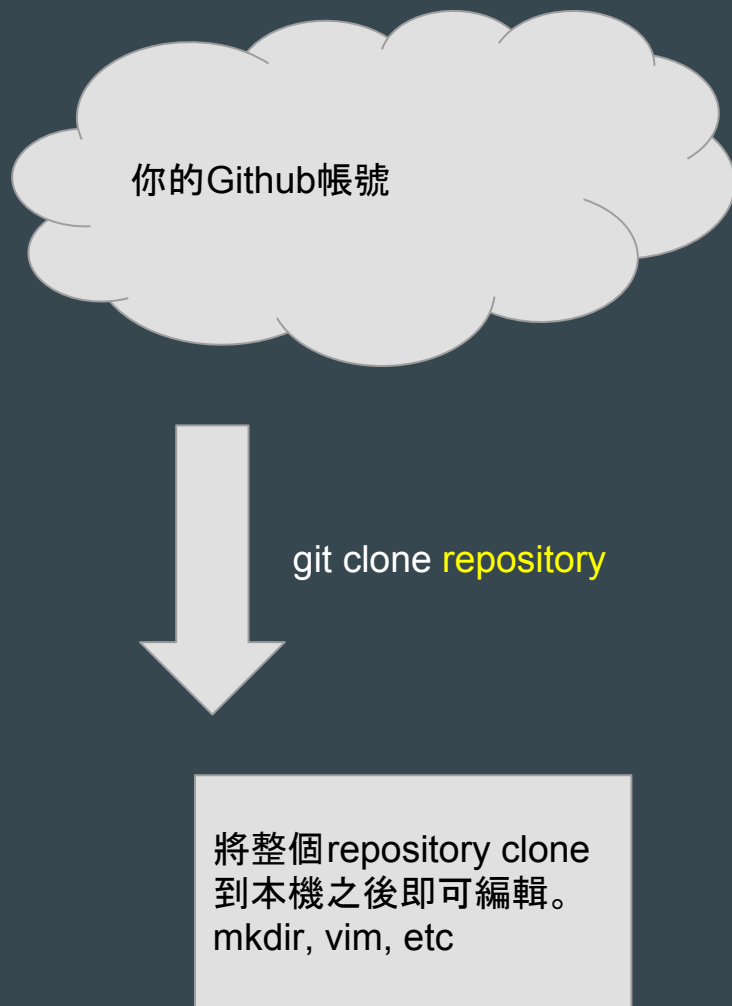
```
echo "# ML2016" >> README.md
git init
git add README.md
git commit -m "first commit"
git remote add origin git@github.com:ML2016TA/ML2016.git
git push -u origin master
```

...or push an existing repository from the command line

```
git remote add origin git@github.com:ML2016TA/ML2016.git
git push -u origin master
```

Github

1. Open your terminal.
2. `git clone git repo url`
3. `cd ML2016`
4. `mkdir hw0`
5. ...
6. ...



Github

1. `git add xxx.py`
2. `git commit`
3. `git push`
4. github網頁確認master是否已更新



`git add file.py`
`git commit`
`git push`

編輯完之後，更新github
上的版本。

Q&A

ml2016ta@gmail.com

Windows系統怎麼辦？

1. 建議安裝linux virtual box
 - a. 優：用起來跟Linux一樣，有問題可以詢問助教
 - b. 劣：花一點時間安裝
2. 在windows安裝Anaconda
 - a. 優：快速安裝，支援部分功能
 - b. 劣：很多東西可能不支援；遇到問題時助教的解法可能不適用

該使用什麼程式語言？

不限定語言，使用自己熟悉的即可。

建議大家使用python，處理檔案方便，助教的範例也是使用python。

如何讀圖？

python有許多現成的工具可以讀圖, ex: PIL

```
from PIL import image
```

參考資料: <https://goo.gl/Lvvxh1>