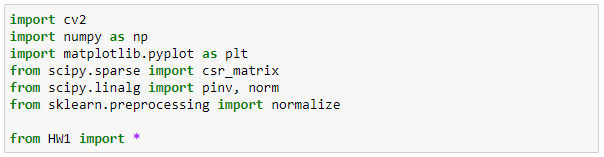
Homework 1

Computer Vision 2022 Spring

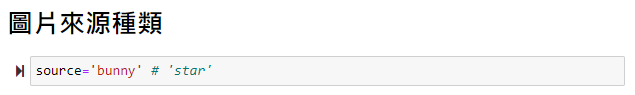
310554031 數據所 葉詠富

* **Preprocess**

1. Import package



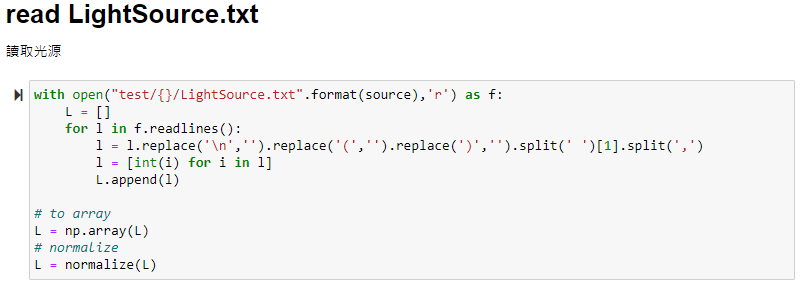
1. Set image source(‘bunny’、’star’)



* **Normal Estimation**

1. Read LightSource.txt

記得光源要做normalization!(圖1、圖2)



1. Read images

使用numpy.vstack將影像向量疊起來



1. Use pseudo inverse calculate KdN



1. Visualize Normal map

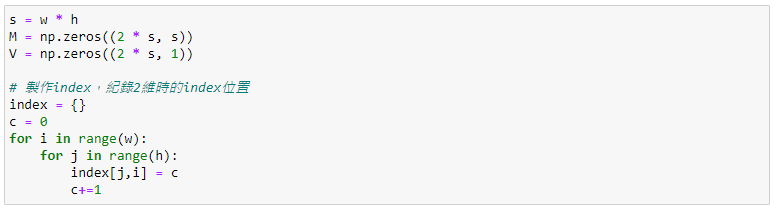
|  |  |
| --- | --- |
| 圖1、LightSource with normalization | 圖2、LightSource without normalization |
|  |  |
|  |  |

1. Set Mask



* **Surface Reconstruction**

1. Set M、V, and set index dictionary to record 2D->1D index



1. Use Mask to determine vector direction and fill in M & V

等一下填

1. Use pseudo inverse calculate z, and reshape z
2. Visualize Depth map
3. Save 3D ply
4. Show 3D ply