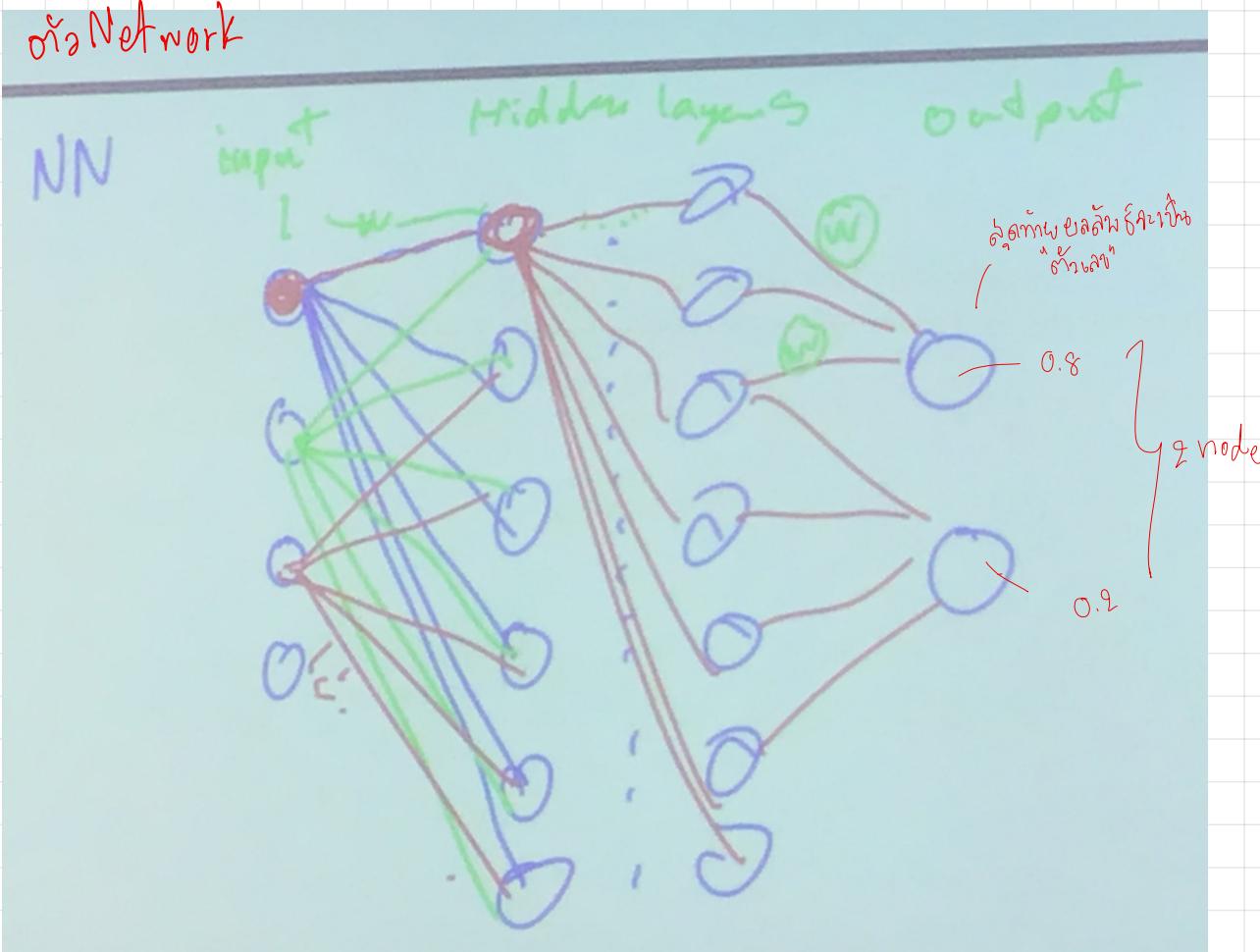


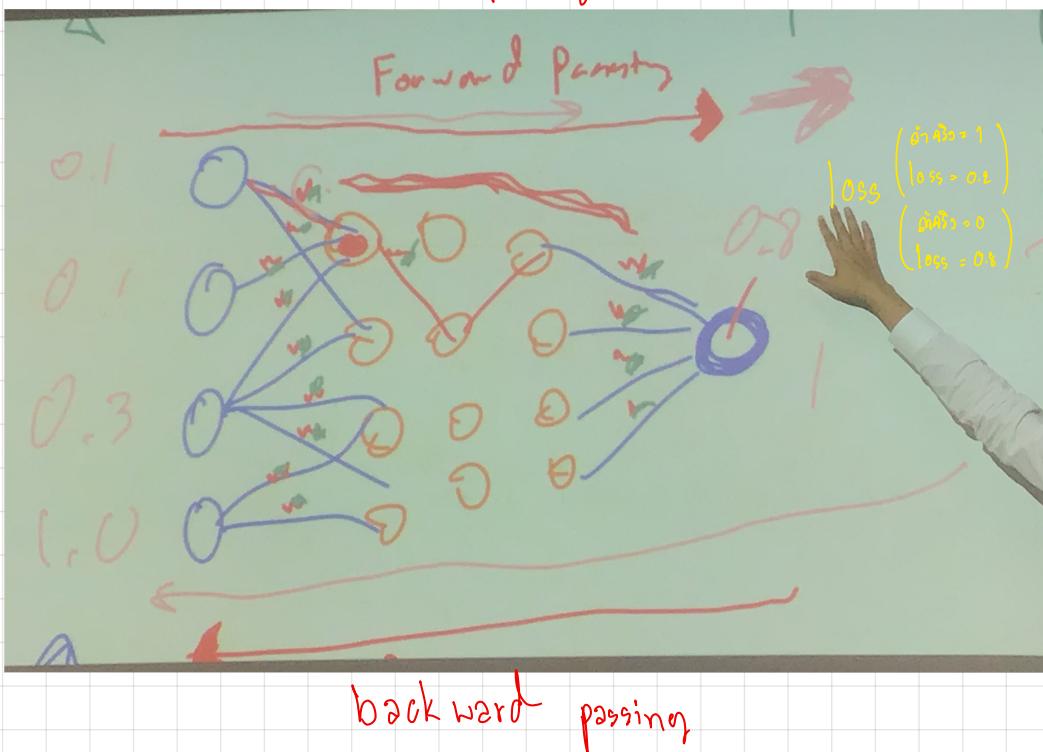
9. 23 / 01 / 65



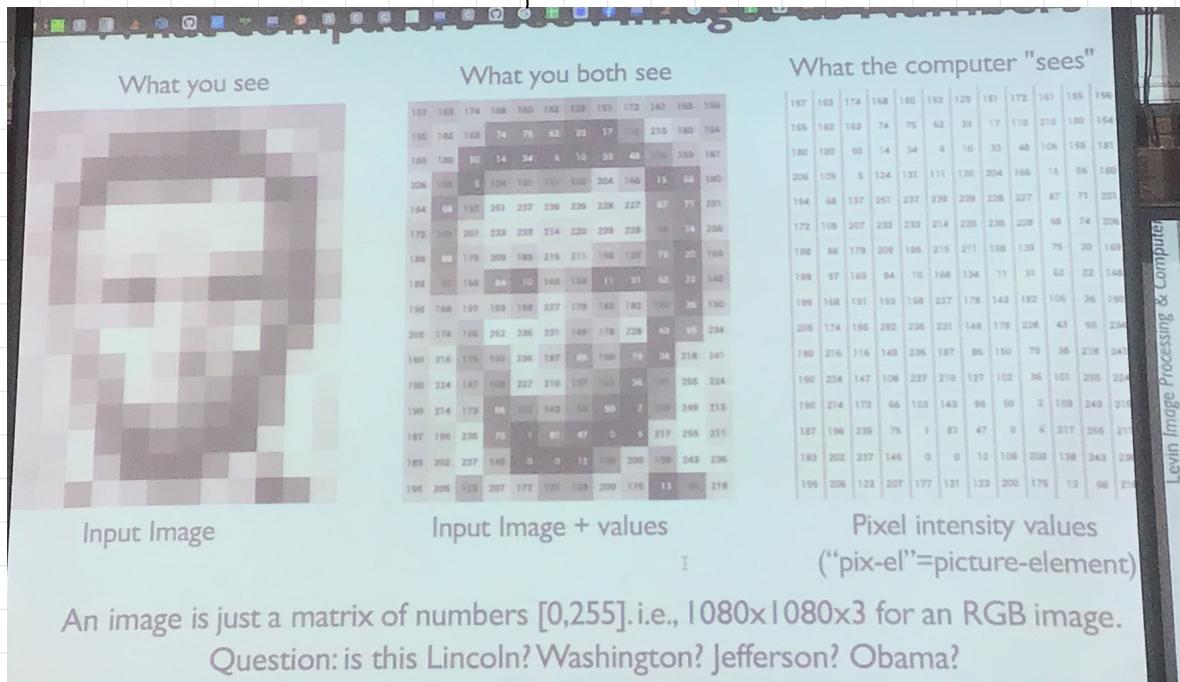
- fully connected (FC)
- Perceptron

โครงสร้าง NN

forward passing

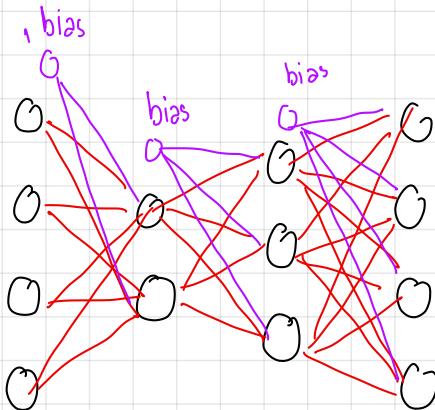


$$0 = \frac{1}{2} \cdot 10^9 \quad , \quad 955 = \frac{1}{2} \cdot 10^9$$



Colab

เขียน bias ไม่ใช้สีฟ้า



```

[3] # Define Sequential model with 3 layers
model = keras.Sequential([
    keras.Input(shape=(4,)),
    layers.Dense(2, activation="relu", name="layer1"),
    layers.Dense(3, activation="relu", name="layer2"),
    layers.Dense(4, name="output"),
])

[4] model.summary()
Model: "sequential"
-----  

Layer (type)      Output Shape     Param #
-----  

layer1 (Dense)   (None, 2)        10  

layer2 (Dense)   (None, 3)        9  

output (Dense)   (None, 4)        16  

-----  

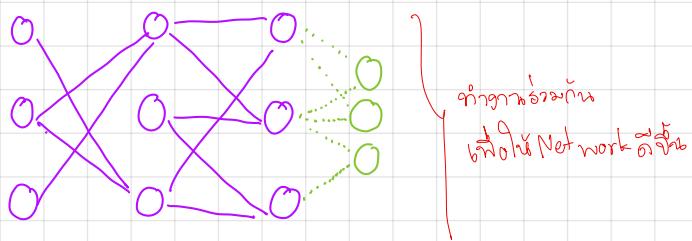
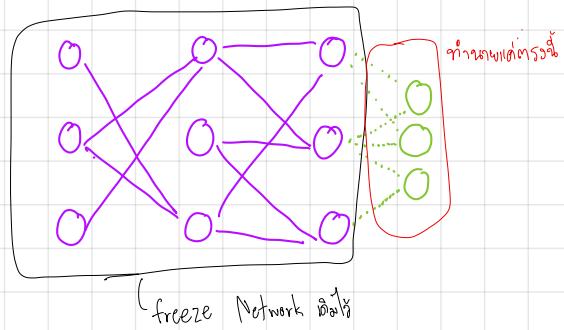
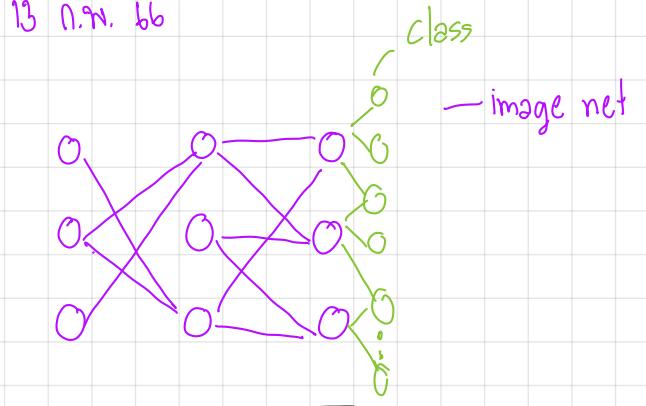
Total params: 35  

Trainable params: 35  

Non-trainable params: 0

```

13 0.9. 66



Unfreeze \Rightarrow trainable

File Edit Selection View Go Run Terminal Help • python_script101.py - Visual Studio Code

Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More

import argparse # สำหรับรับ input จากภาษา Untitled-1 ● python_script101.py ●

```

naruemon@NB0658:~/AIprototype65$ ls
AIprototype65 codes download test test_lv2 testvmkey.pem:Zone.Identifier
naruemon@NB0658:~/AIprototype65$ cd AIprototype65
naruemon@NB0658:~/AIprototype65$ git pull
remote: Enumerating objects: 16, done.
remote: Counting objects: 100% (16/16), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 14 (delta 1), reused 7 (delta 0), pack-reused 0
Unpacking objects: 100% (14/14), 8.24 MiB | 1.04 MiB/s, done.
From https://github.com/naruemonssp/AIprototype65
  ee1ec09..068a4af main      -> origin/main
Updating ee1ec09..068a4af
Fast-forward
  Lecture 1-3.pdf      | Bin 0 -> 12729870 bytes
  README.md             | 11 +
  Tensorflow(network).ipynb | 1563 ++++++-----+
  3 files changed, 1574 insertions(+)
  create mode 100644 Lecture 1-3.pdf
  create mode 100644 Tensorflow(network).ipynb
naruemon@NB0658:~/AIprototype65$ ls
'Lecture 1-3.pdf'  README.md  'Tensorflow(network).ipynb'
naruemon@NB0658:~/AIprototype65$ code python_script101.py
naruemon@NB0658:~/AIprototype65$
```

[ส่องไฟ] ใจ疼 VS Code
ถ้ามีไฟก็ไม่ต้องกลัวแล้ว]

9) python 9 บน Ubuntu

View

PC > Documents

```

naruemon@NB0658:~$ wget https://repo.anaconda.com/miniconda/Miniconda3-py38_23.1.0-1-Linux-x86_64.sh
--2023-02-13 14:05:17-- https://repo.anaconda.com/miniconda/Miniconda3-py38_23.1.0-1-Linux-x86_64.sh
Resolving repo.anaconda.com (repo.anaconda.com)... 104.16.131.3, 104.16.130.3, 2606:4700::6810:8503, ...
Connecting to repo.anaconda.com (repo.anaconda.com)|104.16.131.3|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 68546682 (65M) [application/x-sh]
Saving to: 'Miniconda3-py38_23.1.0-1-Linux-x86_64.sh'

Miniconda3-py38_23.1.0-1-Linux 100%[=====] 65.37M 22.5MB/s in 0.3s

2023-02-13 14:05:20 (22.5 MB/s) - 'Miniconda3-py38_23.1.0-1-Linux-x86_64.sh' saved [68546682/68546682]

naruemon@NB0658:~$ ls -ltr
total 66968
drwxr-xr-x 3 naruemon naruemon 4096 Dec 26 14:37 test_lv2
drwxr-xr-x 3 naruemon naruemon 4096 Dec 26 15:05 test
-rw-r--r-- 1 naruemon naruemon 61 Dec 26 15:31 testvmkey.pem:Zone.Identifier
drwxr-xr-x 2 naruemon naruemon 4096 Jan 10 10:36 download
drwxr-xr-x 3 naruemon naruemon 4096 Jan 16 15:50 codes
-rw-r--r-- 1 naruemon naruemon 68546682 Feb 8 10:48 Miniconda3-py38_23.1.0-1-Linux-x86_64.sh
drwxr-xr-x 3 naruemon naruemon 4096 Feb 13 13:48 AIprototype65
naruemon@NB0658:~$ chmod +x
naruemon@NB0658:~$
```

View

PC > Documents

naruemon@NB0658:

```

Resolving repo.anaconda.com (repo.anaconda.com)... 104.16.131.3, 104.16.130.3, 2606:4700::6810:8503, ...
Connecting to repo.anaconda.com (repo.anaconda.com)|104.16.131.3|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 68546682 (65M) [application/x-sh]
Saving to: 'Miniconda3-py38_23.1.0-1-Linux-x86_64.sh'

Miniconda3-py38_23.1.0-1-Linux 100%[=====] 65.37M 22.5MB/s in 0.3s

2023-02-13 14:05:20 (22.5 MB/s) - 'Miniconda3-py38_23.1.0-1-Linux-x86_64.sh' saved [68546682/68546682]

naruemon@NB0658:~$ ls -ltr
total 66968
drwxr-xr-x 3 naruemon naruemon 4096 Dec 26 14:37 test_lv2
drwxr-xr-x 3 naruemon naruemon 4096 Dec 26 15:05 test
drwxr-xr-x 3 naruemon naruemon 61 Dec 26 15:31 testvmkey.pem:Zone.Identifier
-rw-r--r-- 1 naruemon naruemon 4096 Jan 10 10:36 download
drwxr-xr-x 2 naruemon naruemon 4096 Jan 16 15:50 codes
drwxr-xr-x 3 naruemon naruemon 4096 Feb 8 10:48 Miniconda3-py38_23.1.0-1-Linux-x86_64.sh
-rw-r--r-- 1 naruemon naruemon 68546682 Feb 8 10:48 AIprototype65
drwxr-xr-x 3 naruemon naruemon 4096 Feb 13 13:48 Miniconda3-py38_23.1.0-1-Linux-x86_64.sh
naruemon@NB0658:~$ chmod +x Miniconda3-py38_23.1.0-1-Linux-x86_64.sh
naruemon@NB0658:~$ ls -ltr
total 66968
drwxr-xr-x 3 naruemon naruemon 4096 Dec 26 14:37 test_lv2
drwxr-xr-x 3 naruemon naruemon 4096 Dec 26 15:05 test
drwxr-xr-x 3 naruemon naruemon 61 Dec 26 15:31 testvmkey.pem:Zone.Identifier
-rw-r--r-- 1 naruemon naruemon 4096 Jan 10 10:36 download
drwxr-xr-x 2 naruemon naruemon 4096 Jan 16 15:50 codes
drwxr-xr-x 3 naruemon naruemon 4096 Feb 8 10:48 Miniconda3-py38_23.1.0-1-Linux-x86_64.sh
-rw-r--r-- 1 naruemon naruemon 68546682 Feb 8 10:48 AIprototype65
drwxr-xr-x 3 naruemon naruemon 4096 Feb 13 13:48 Miniconda3-py38_23.1.0-1-Linux-x86_64.sh
naruemon@NB0658:~$
```

↳ bash โค้ดดีๆ

ตั้งค่า python บน Ubuntu (จะสอน Ubuntu ว่าต้อง install อะไร)

ใน base ต้องนี่

```
File Edit Selection View Go Run Terminal Help
python_script101.py - Visual Studio Code
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
python_script101.py
(base) naruemon@NB0658:~/Alprototype65$ cd Alprototype65/
(base) naruemon@NB0658:~/Alprototype65$ file "python_script101.py"
file "python_script101.py", line 3
  if __name__ == "__main__":
                                ^
SyntaxError: invalid syntax
(base) naruemon@NB0658:~/Alprototype65$ python python_script101.py
ai prototype
(base) naruemon@NB0658:~/Alprototype65$
```

```
File Edit Selection View Go Run Terminal Help
python_script101.py - Visual Studio Code
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
python_script101.py
Ubuntu-20.04 > home > naruemon > Alprototype65 > python_script101.py
1 import argparse #สำหรับ รัน input ภาษาไทยออก
2
3 def print_other():
4     print('something else')
5
6 def parse_input():
7     parser = argparse.ArgumentParser(description='test program to learn about argparse and subprocess')
8     parser.add_argument(
9         'm',
10        type=int,
11        help='value of M positional argument')
12
13     parser.add_argument(
14         '--x',
15        type=int,
16        help='value of x')
17
18     parser.add_argument(
19         '--yval',
20        type=int,
21        default=3,
22        help='value of y')
23
24     args = parser.parse_args()
25     return args
26
27 def print_other():
28     print('something else')
```

Ln 28, Col 28 Spaces: 4
35°C มีเม็ดฝนตก

The screenshot shows a Visual Studio Code window with a Python script named `python_script101.py`. The script uses argparse to handle command-line arguments. A terminal window is open in the background, showing the script's usage and positional argument details.

```
python_script101.py -h
usage: python_script101.py [-h] [--x X] [--yval YVAL] m

test program to learn about argparse and subprocess

positional arguments:
  m                  value of M positional argument

optional arguments:
  -h, --help          show this help message and exit
  --x X              value of x
  --yval YVAL        value of y
```

Code Content:

```
import argparse # สำหรับรับ รัน input ภาษาไทย
def print_other():
    print('something else')
def parse_input():
    parser = argparse.ArgumentParser()
    parser.add_argument(
        'm',
        type=int,
        help='value of M position'
    )
    parser.add_argument(
        '--x',
        type=int,
        help='value of x'
    )
    parser.add_argument(
        '--yval',
        type=int,
        default=3,
        help='value of y'
    )
    args = parser.parse_args()
    return args
def print_other():
    print('something else')
```

- គឺជាប្រភពនៃការបង្កើតឱ្យសម្រាប់ការបញ្ជីការណ៍ដែលត្រូវការកំណត់ពីរក្នុងការបង្កើត (ប្រព័ន្ធទិន្នន័យ)

Save in git hub

The screenshot shows a GitHub repository interface. The repository name is 'Alprototype2022/python_script_1'. The commit history shows a single commit titled 'basic python' made by 'naruemon' on 'naruemon@NB0658'. The commit message includes the command used: 'git add python_script101.py', 'git commit -m "basic python"', and 'git push'. The repository contains several files: 'python_script101.py', 'README.md', 'Tensorflow(n)', 'python script', and 'README.md' (another one). The 'python_script101.py' file is shown with its content: 'print("Hello, world!")'.

```
(base) naruemon@NB0658:~/Alprototype65$ git add python_script101.py
(base) naruemon@NB0658:~/Alprototype65$ git commit -m "basic python"
[main 40d0bb0] basic python
 1 file changed, 51 insertions(+)
   create mode 100644 python_script101.py
(base) naruemon@NB0658:~/Alprototype65$ git push
Username for 'https://github.com': naruemonssp
Password for 'https://naruemonssp@github.com':
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 6 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 704 bytes | 704.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
To https://github.com/naruemonssp/Alprototype65
   0684af4..40d0bb0  main -> main
```

AI prototype 65

