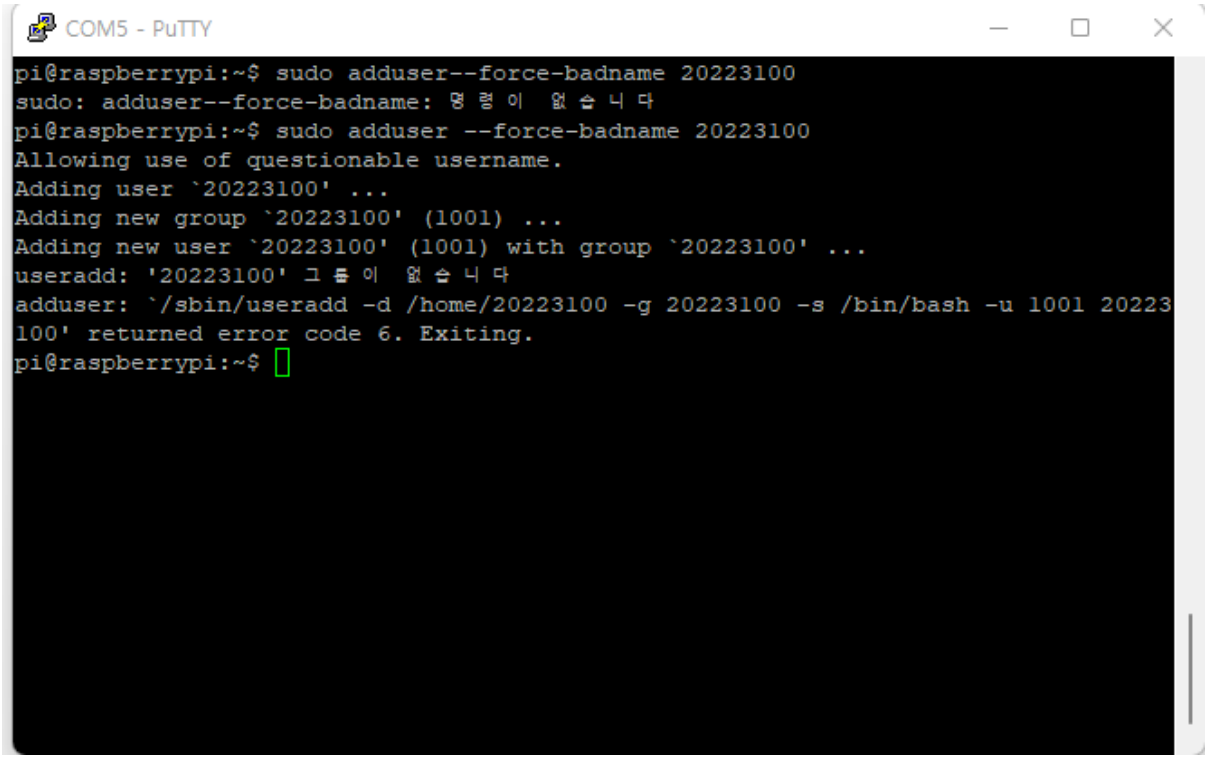
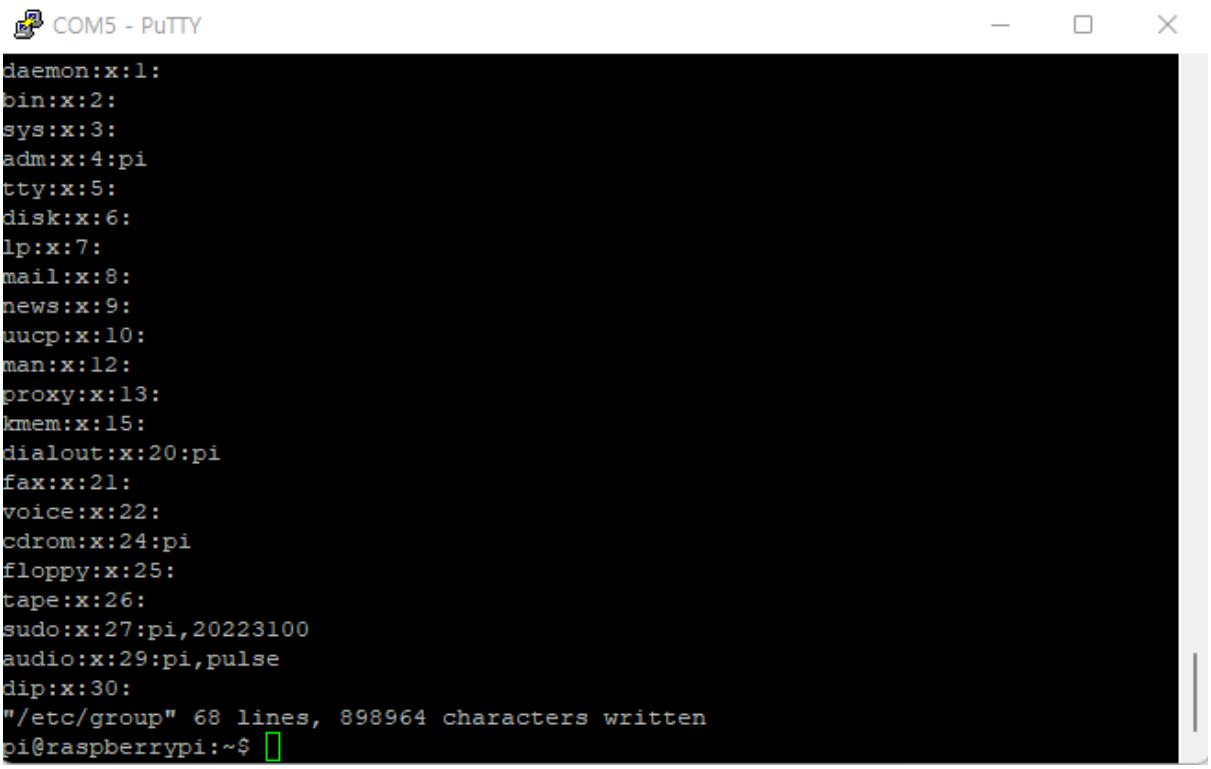
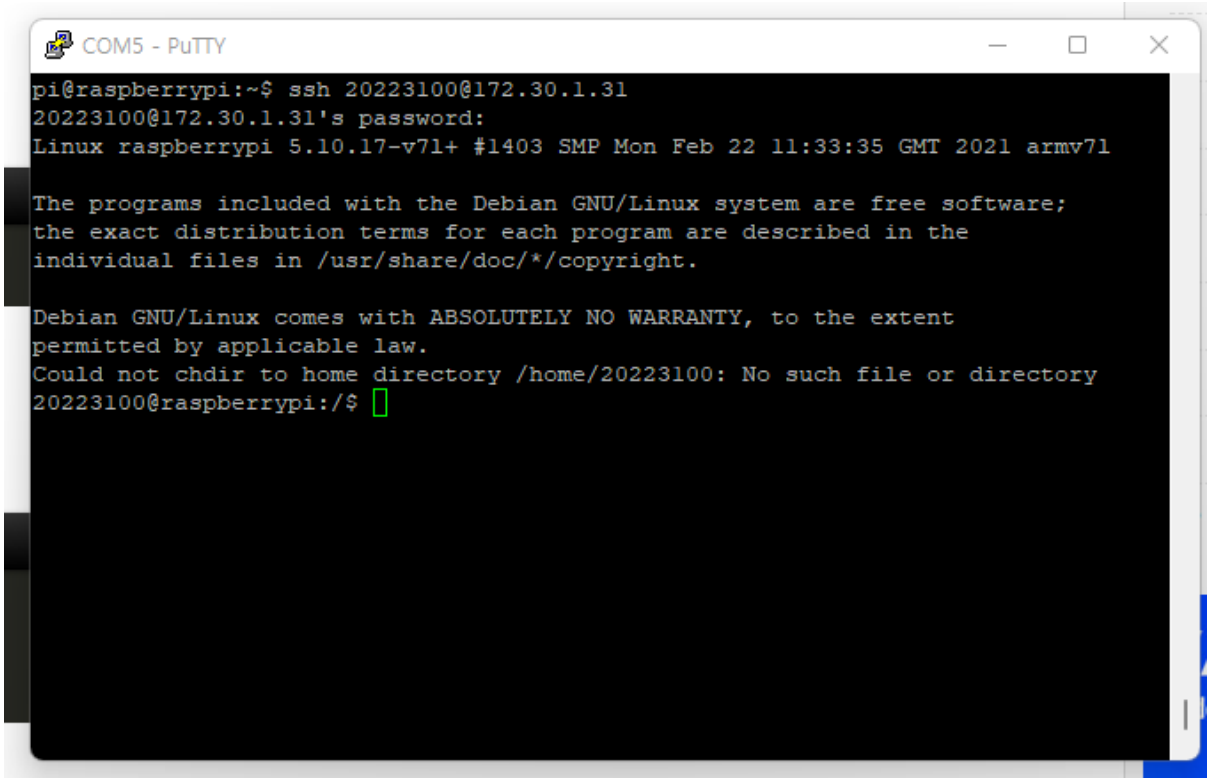
1.

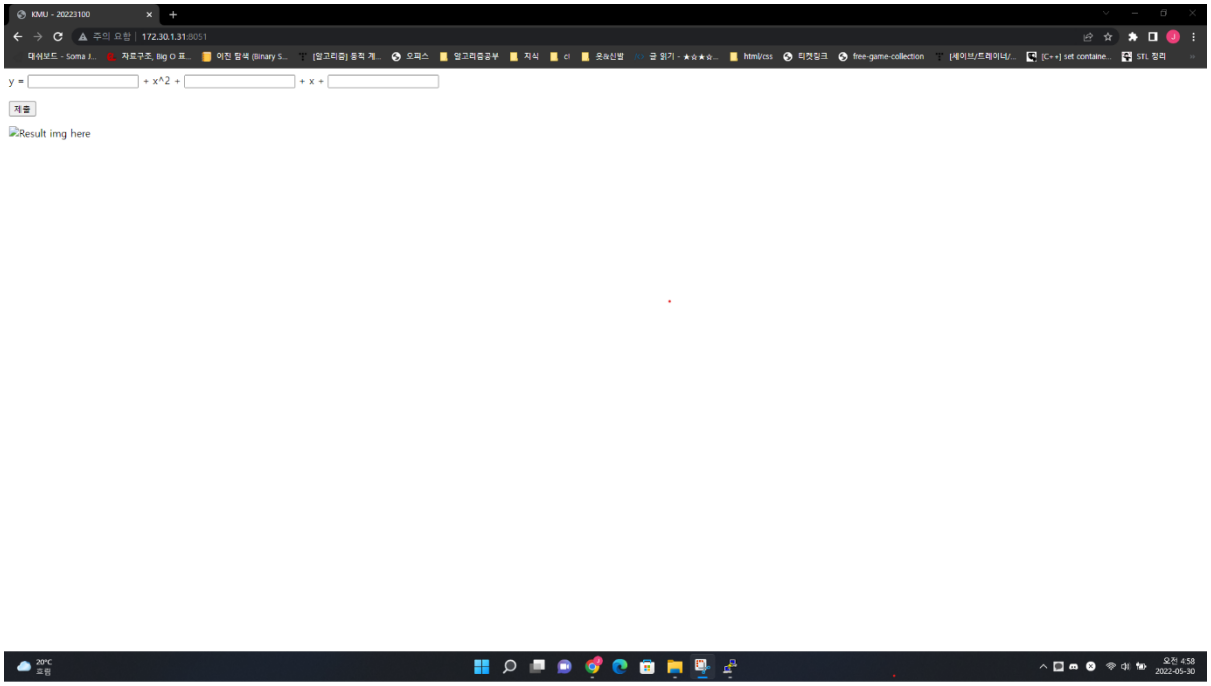

COM5 - PuTTY
pi@raspberrypi:~$ sudo adduser--force-badname 20223100
sudo: adduser--force-badname: 명 령 이 없 습 니 다
pi@raspberrypi:~$ sudo adduser --force-badname 20223100
Allowing use of questionable username.
Adding user `20223100' ...
Adding new group `20223100' (1001) ...
Adding new user `20223100' (1001) with group `20223100' ...
useradd: '20223100' 그 룹 이 없 습 니 다
adduser: `/sbin/useradd -d /home/20223100 -g 20223100 -s /bin/bash -u 1001 20223
100' returned error code 6. Exiting.
pi@raspberrypi:~$

2.

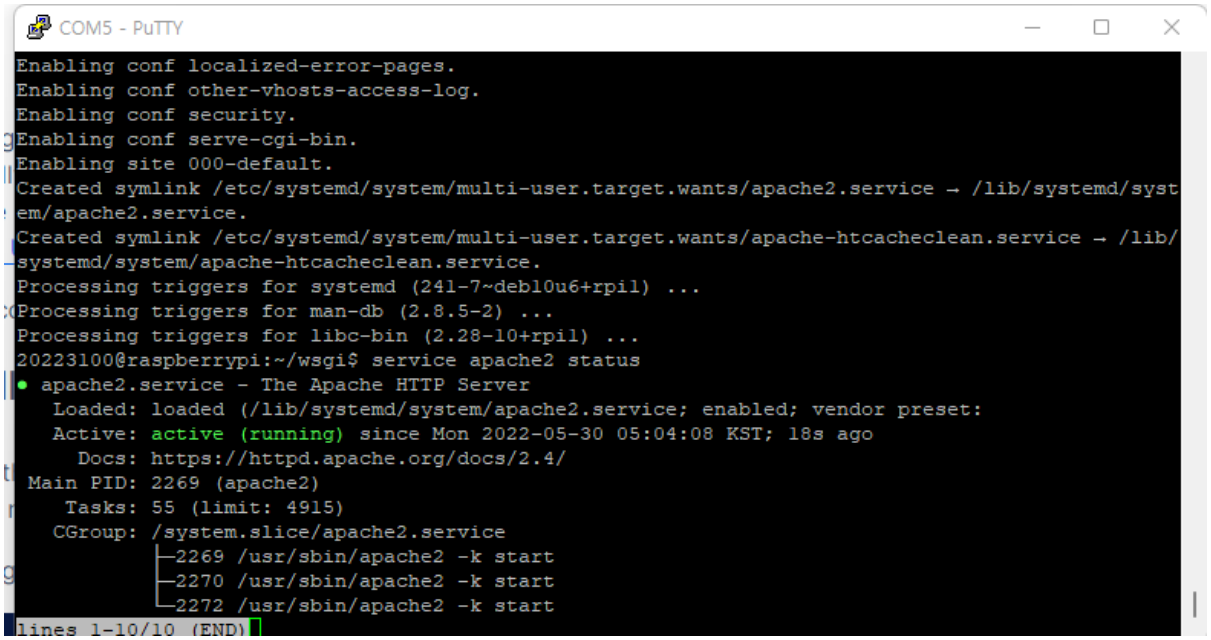

COM5 - PuTTY
daemon:x:1:
bin:x:2:
sys:x:3:
adm:x:4:pi
tty:x:5:
disk:x:6:
lp:x:7:
mail:x:8:
news:x:9:
uucp:x:10:
man:x:12:
proxy:x:13:
kmem:x:15:
dialout:x:20:pi
fax:x:21:
voice:x:22:
cdrom:x:24:pi
floppy:x:25:
tape:x:26:
sudo:x:27:pi,20223100
audio:x:29:pi,pulse
dip:x:30:
"/etc/group" 68 lines, 898964 characters written
pi@raspberrypi:~$


COM5 - PuTTY
pi@raspberrypi:~$ ssh 20223100@172.30.1.31
20223100@172.30.1.31's password:
Linux raspberrypi 5.10.17-v7l+ #1403 SMP Mon Feb 22 11:33:35 GMT 2021 armv7l
The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Could not chdir to home directory /home/20223100: No such file or directory
20223100@raspberrypi:/$

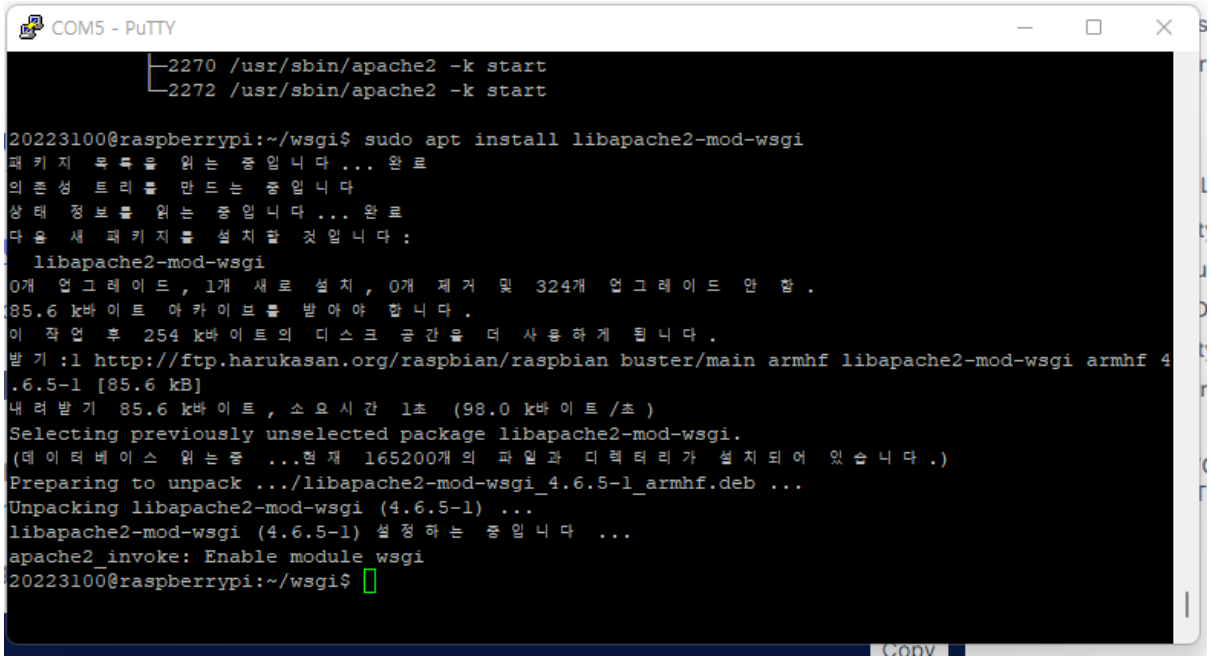
4.


KMU - 20223100
172.30.1.31:8051
y =
+ x^2 +
+ x +
제출
Result img here

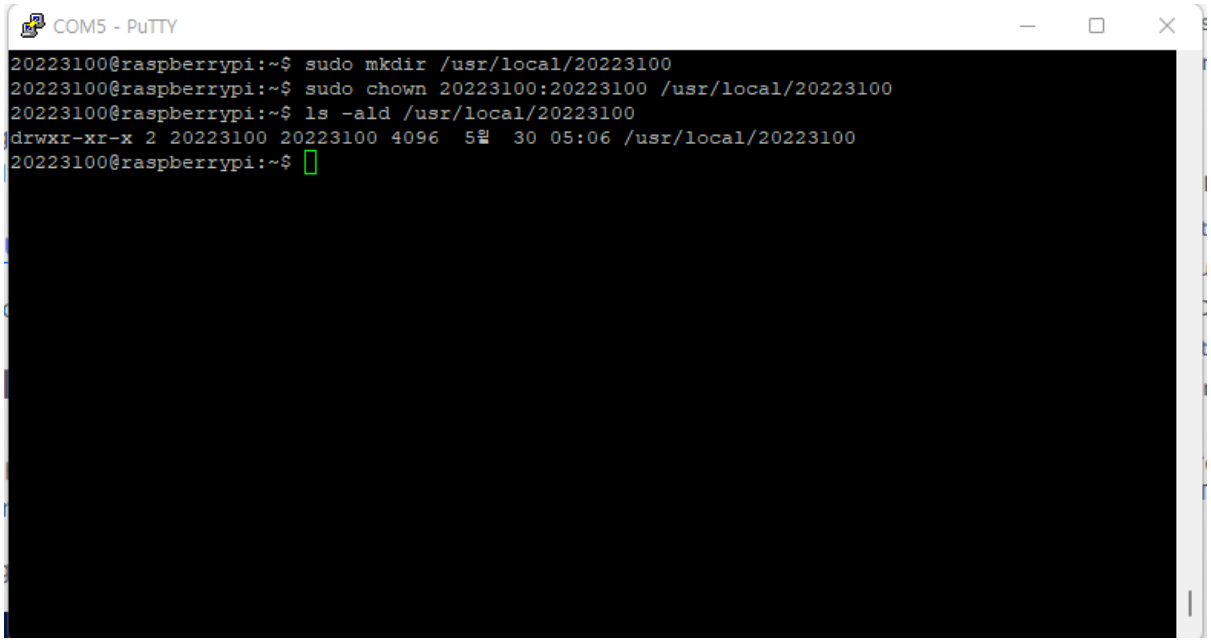
5.


COM5 - PuTTY
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/systemd/system/apache-htcacheclean.service.
Processing triggers for systemd (241-7~deb10u6+rpi1) ...
Processing triggers for man-db (2.8.5-2) ...
Processing triggers for libc-bin (2.28-10+rpi1) ...
20223100@raspberrypi:~/wsgi$ service apache2 status
● apache2.service - The Apache HTTP Server
Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset:
Active: active (running) since Mon 2022-05-30 05:04:08 KST; 18s ago
Docs: https://httpd.apache.org/docs/2.4/
Main PID: 2269 (apache2)
Tasks: 55 (limit: 4915)
CGroup: /system.slice/apache2.service
├─2269 /usr/sbin/apache2 -k start
├─2270 /usr/sbin/apache2 -k start
└─2272 /usr/sbin/apache2 -k start
lines 1-10/10 (END)

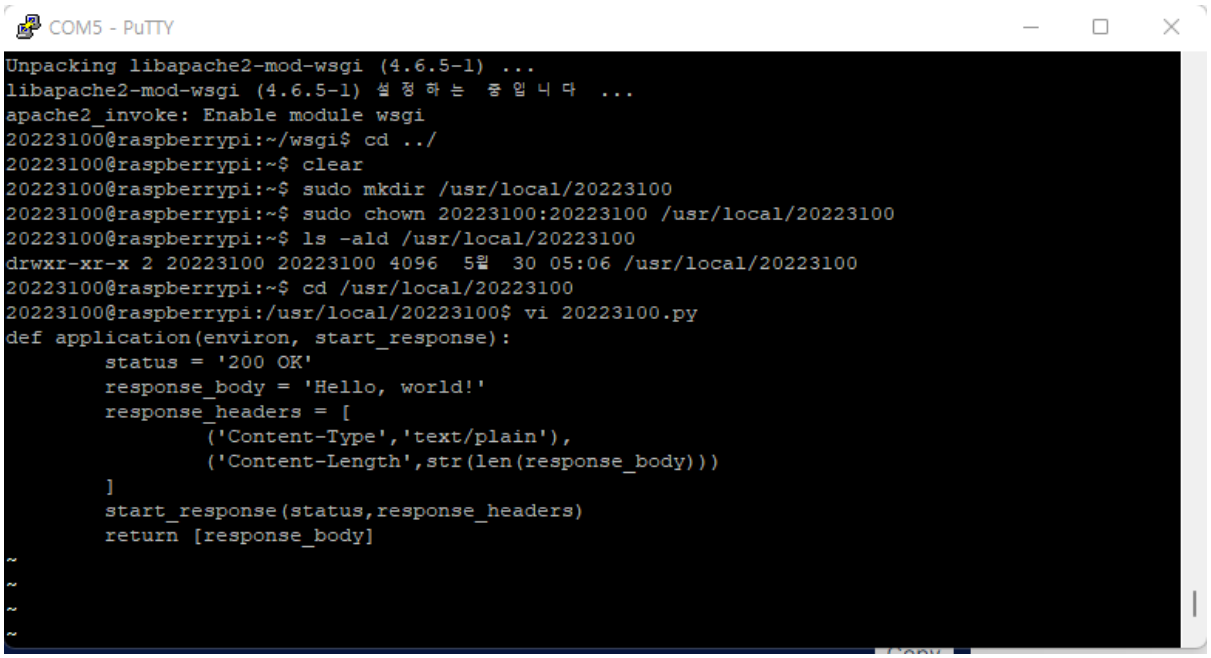
6.


COM5 - PuTTY
├─2270 /usr/sbin/apache2 -k start
└─2272 /usr/sbin/apache2 -k start
20223100@raspberrypi:~/wsgi$ sudo apt install libapache2-mod-wsgi
패키지 목록을 읽는 중입니다 ... 완료
의존성 트리를 만드는 중입니다
상태 정보를 읽는 중입니다 ... 완료
다음 새 패키지를 설치할 것입니다:
libapache2-mod-wsgi
0개 업그레이드, 1개 새로 설치, 0개 제거 및 324개 업그레이드 안 함.
85.6 kB 아카이브를 받아야 합니다.
이 작업 후 254 kB의 디스크 공간을 더 사용하게 됩니다.
받기:1 http://ftp.harukasan.org/raspbian/raspbian buster/main armhf libapache2-mod-wsgi armhf 4.6.5-1 [85.6 kB]
내려받기 85.6 kB, 소요시간 1초 (98.0 kB/초)
Selecting previously unselected package libapache2-mod-wsgi.
(데이터베이스 읽는중 ...현재 165200개의 파일과 디렉터리가 설치되어 있습니다.)
Preparing to unpack .../libapache2-mod-wsgi_4.6.5-1_armhf.deb ...
Unpacking libapache2-mod-wsgi (4.6.5-1) ...
libapache2-mod-wsgi (4.6.5-1) 설정하는 중입니다 ...
apache2_invoke: Enable module wsgi
20223100@raspberrypi:~/wsgi$

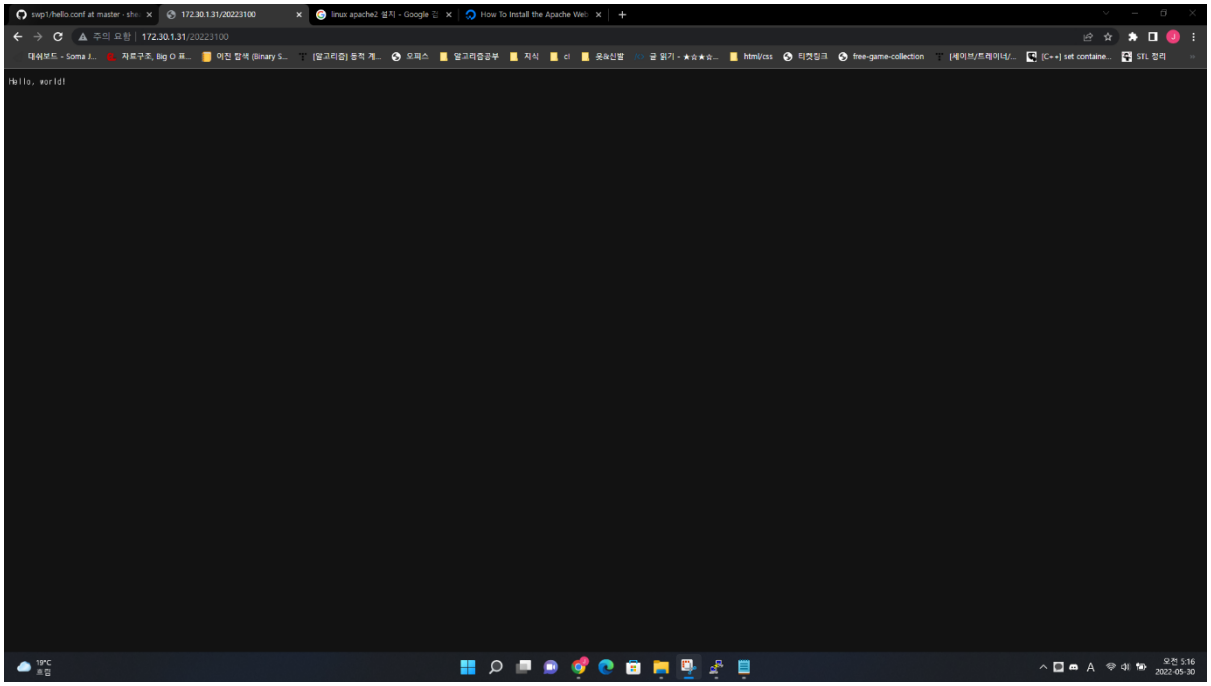
7.


COM5 - PuTTY
20223100@raspberrypi:~$ sudo mkdir /usr/local/20223100
20223100@raspberrypi:~$ sudo chown 20223100:20223100 /usr/local/20223100
20223100@raspberrypi:~$ ls -ald /usr/local/20223100
drwxr-xr-x 2 20223100 20223100 4096 5월 30 05:06 /usr/local/20223100
20223100@raspberrypi:~$

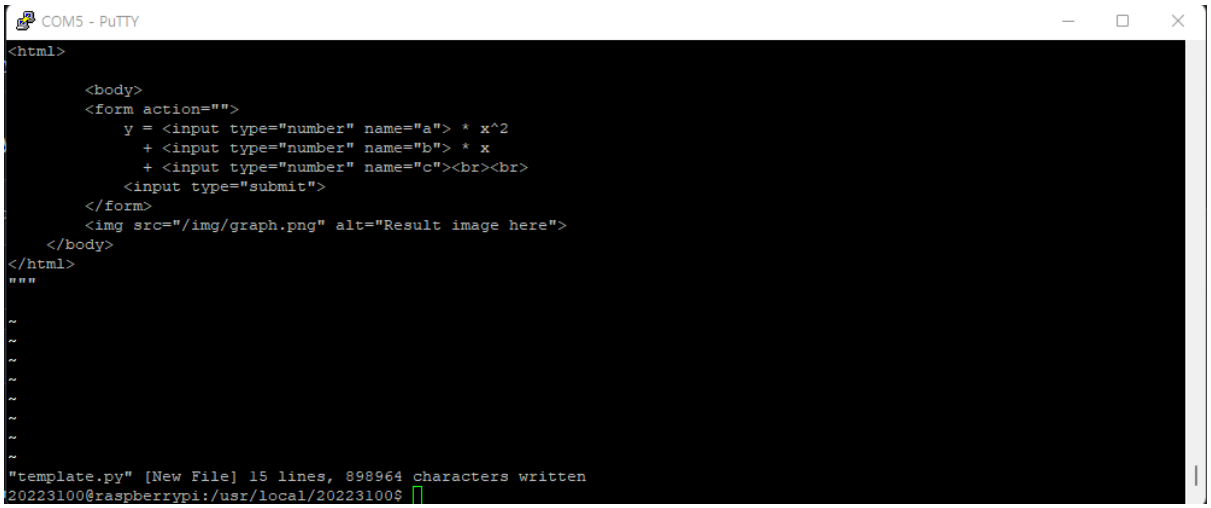
8.


COM5 - PuTTY
Unpacking libapache2-mod-wsgi (4.6.5-1) ...
libapache2-mod-wsgi (4.6.5-1) 설정하는 중입니다 ...
apache2_invoke: Enable module wsgi
20223100@raspberrypi:~/wsgi$ cd ../
20223100@raspberrypi:~$ clear
20223100@raspberrypi:~$ sudo mkdir /usr/local/20223100
20223100@raspberrypi:~$ sudo chown 20223100:20223100 /usr/local/20223100
20223100@raspberrypi:~$ ls -ald /usr/local/20223100
drwxr-xr-x 2 20223100 20223100 4096 5월 30 05:06 /usr/local/20223100
20223100@raspberrypi:~$ cd /usr/local/20223100
20223100@raspberrypi:/usr/local/20223100$ vi 20223100.py
def application(environ, start_response):
status = '200 OK'
response_body = 'Hello, world!'
response_headers = [
('Content-Type','text/plain'),
('Content-Length',str(len(response_body)))
]
start_response(status,response_headers)
return [response_body]
~
~
~
~

9.


Hello, world!

10.


COM5 - PuTTY
<html>
<body>
<form action="">
y = <input type="number" name="a"> * x^2
+ <input type="number" name="b"> * x
+ <input type="number" name="c">

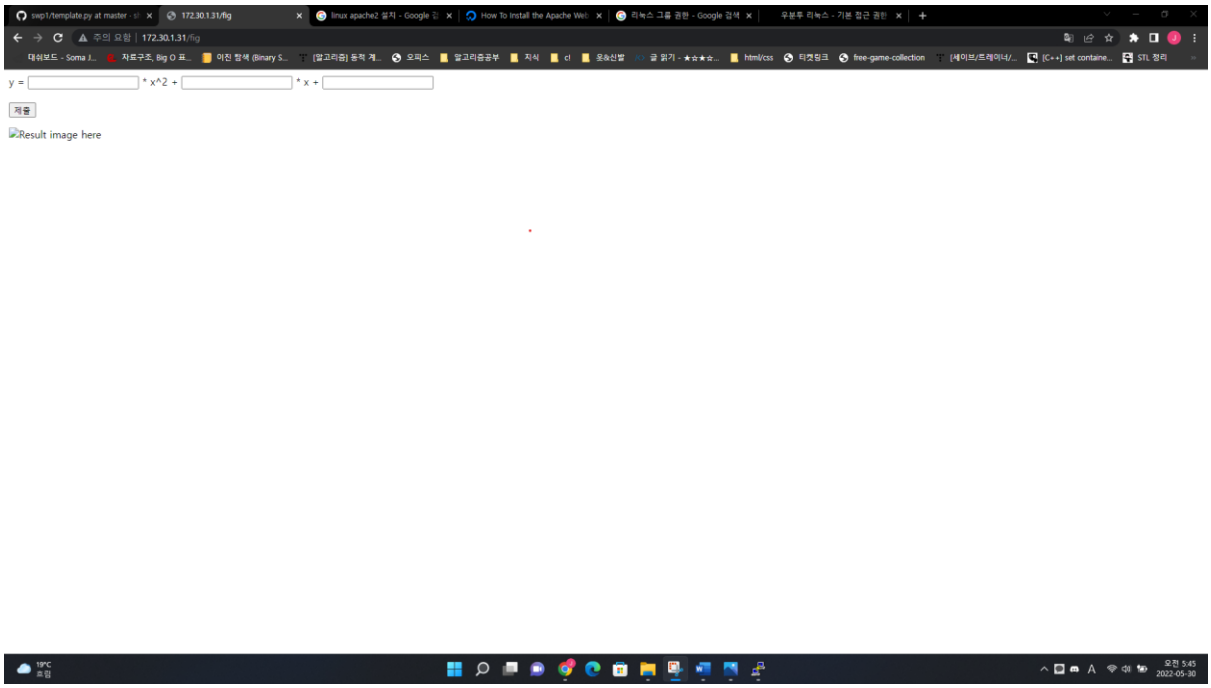
<input type="submit">
</form>
<img src="/img/graph.png" alt="Result image here">
</body>
</html>
"""
"template.py" [New File] 15 lines, 898964 characters written
20223100@raspberrypi:/usr/local/20223100$

11.

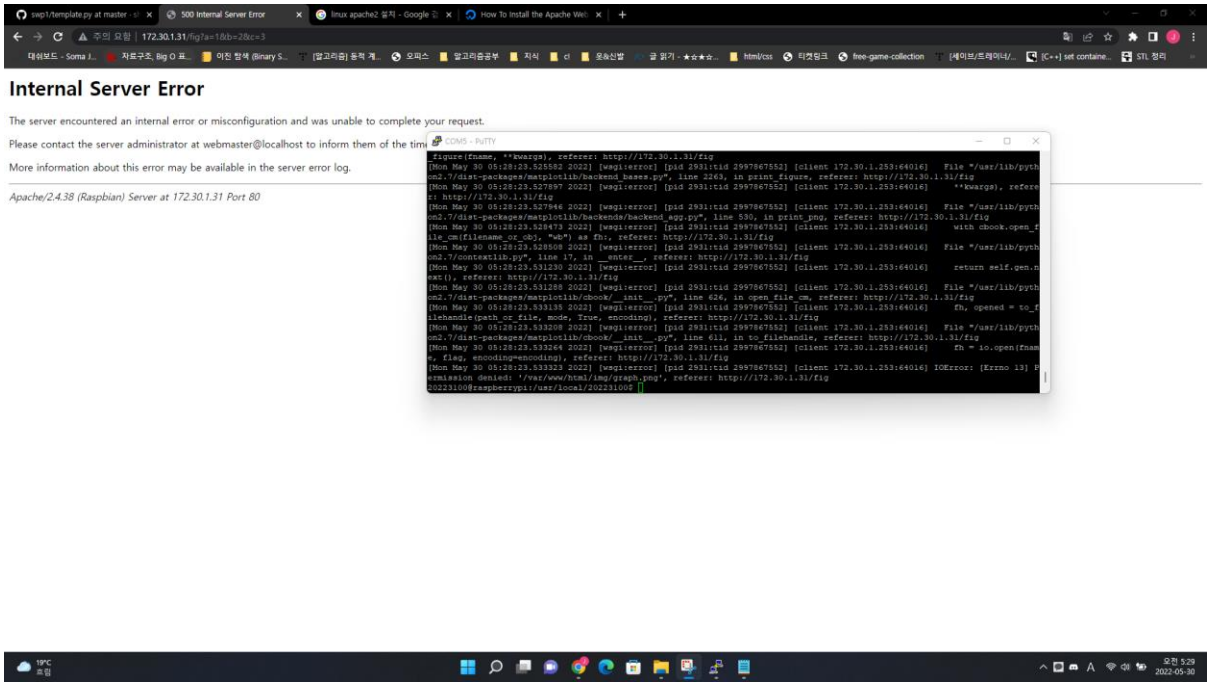
COM5 - PuTTY

```
        <img src="/img/graph.png" alt="Result image here">
    </body>
</html>
"""

~
~
~
~
~
~
~
~
"template.py" [New File] 15 lines, 898964 characters written                f
WSGIScriptAlias /fig /usr/local/20223100/fig.pyetc/apache2/conf-enabled/fig.conf
WSGIPythonPath /usr/local/20223100

<Directory "/usr/local/20223100">
    AllowOverride None
    Order deny,allow
    Require all granted
</Directory>

20223100@raspberrypi:/usr/local/20223100$
```

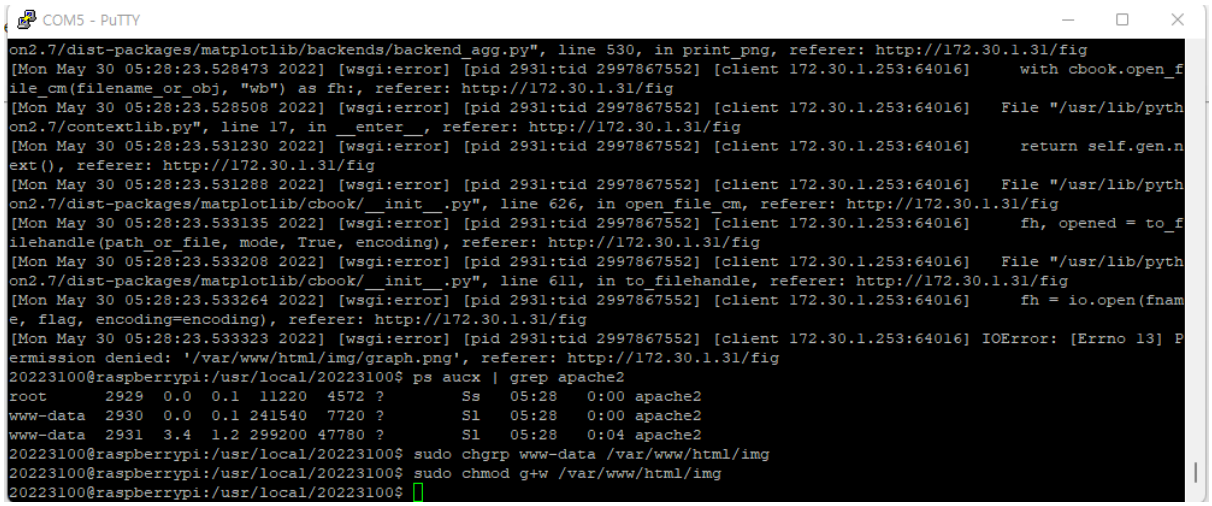
12.



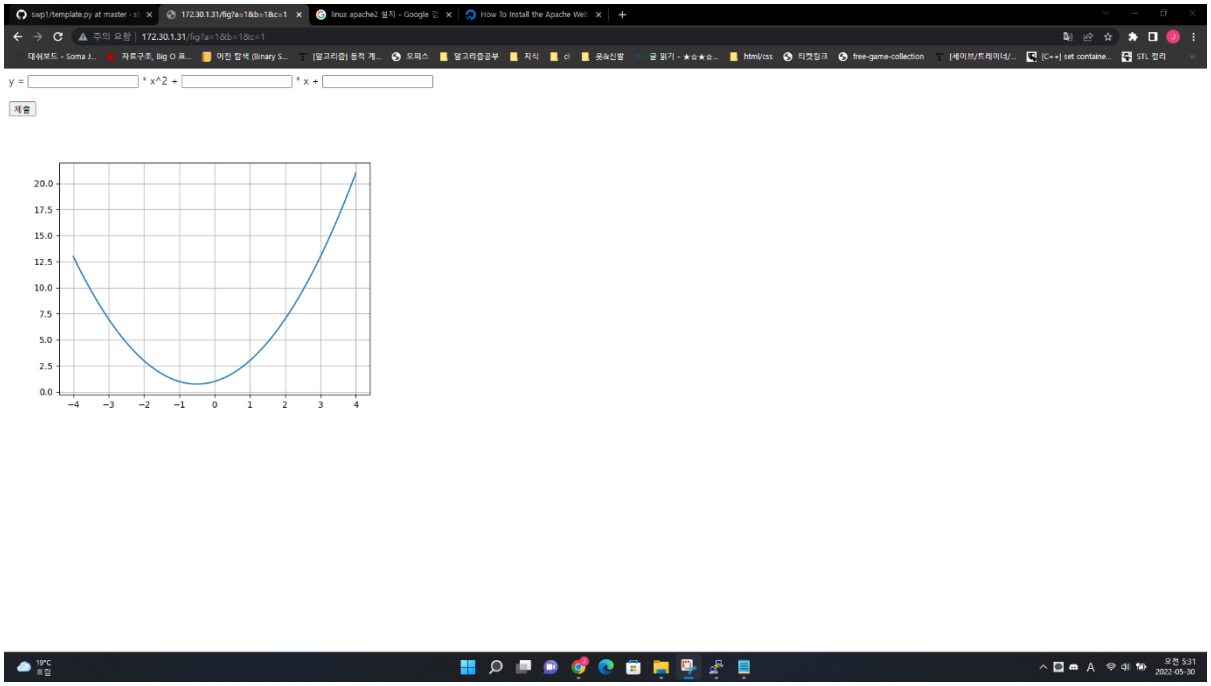
13.


Internal Server Error
The server encountered an internal error or misconfiguration and was unable to complete your request.
Please contact the server administrator at webmaster@localhost to inform them of the tim
More information about this error may be available in the server error log.
Apache/2.4.38 (Raspbian) Server at 172.30.1.31 Port 80

14.


COM5 - PuTTY
on2.7/dist-packages/matplotlib/backends/backend_agg.py", line 530, in print_png, referer: http://172.30.1.31/fig
[Mon May 30 05:28:23.528473 2022] [wsgi:error] [pid 2931:tid 2997867552] [client 172.30.1.253:64016] with cbook.open_f
ile_cm(filename_or_obj, "wb") as fh:, referer: http://172.30.1.31/fig
[Mon May 30 05:28:23.528508 2022] [wsgi:error] [pid 2931:tid 2997867552] [client 172.30.1.253:64016] File "/usr/lib/pyth
on2.7/contextlib.py", line 17, in __enter__, referer: http://172.30.1.31/fig
[Mon May 30 05:28:23.531230 2022] [wsgi:error] [pid 2931:tid 2997867552] [client 172.30.1.253:64016] return self.gen.n
ext(), referer: http://172.30.1.31/fig
[Mon May 30 05:28:23.531288 2022] [wsgi:error] [pid 2931:tid 2997867552] [client 172.30.1.253:64016] File "/usr/lib/pyth
on2.7/dist-packages/matplotlib/cbook/__init__.py", line 626, in open_file_cm, referer: http://172.30.1.31/fig
[Mon May 30 05:28:23.533135 2022] [wsgi:error] [pid 2931:tid 2997867552] [client 172.30.1.253:64016] fh, opened = to_f
ilehandle(path_or_file, mode, True, encoding), referer: http://172.30.1.31/fig
[Mon May 30 05:28:23.533208 2022] [wsgi:error] [pid 2931:tid 2997867552] [client 172.30.1.253:64016] File "/usr/lib/pyth
on2.7/dist-packages/matplotlib/cbook/__init__.py", line 611, in to_filehandle, referer: http://172.30.1.31/fig
[Mon May 30 05:28:23.533264 2022] [wsgi:error] [pid 2931:tid 2997867552] [client 172.30.1.253:64016] fh = io.open(fnam
e, flag, encoding=encoding), referer: http://172.30.1.31/fig
[Mon May 30 05:28:23.533323 2022] [wsgi:error] [pid 2931:tid 2997867552] [client 172.30.1.253:64016] IOError: [Errno 13] P
ermission denied: '/var/www/html/img/graph.png', referer: http://172.30.1.31/fig
20223100@raspberrypi:/usr/local/20223100$ ps aucx | grep apache2
root 2929 0.0 0.1 11220 4572 ? Ss 05:28 0:00 apache2
www-data 2930 0.0 0.1 241540 7720 ? Sl 05:28 0:00 apache2
www-data 2931 3.4 1.2 299200 47780 ? Sl 05:28 0:04 apache2
20223100@raspberrypi:/usr/local/20223100$ sudo chgrp www-data /var/www/html/img
20223100@raspberrypi:/usr/local/20223100$ sudo chmod g+w /var/www/html/img
20223100@raspberrypi:/usr/local/20223100$

15.



16.

From cgi import parse.qs