

Homework 1

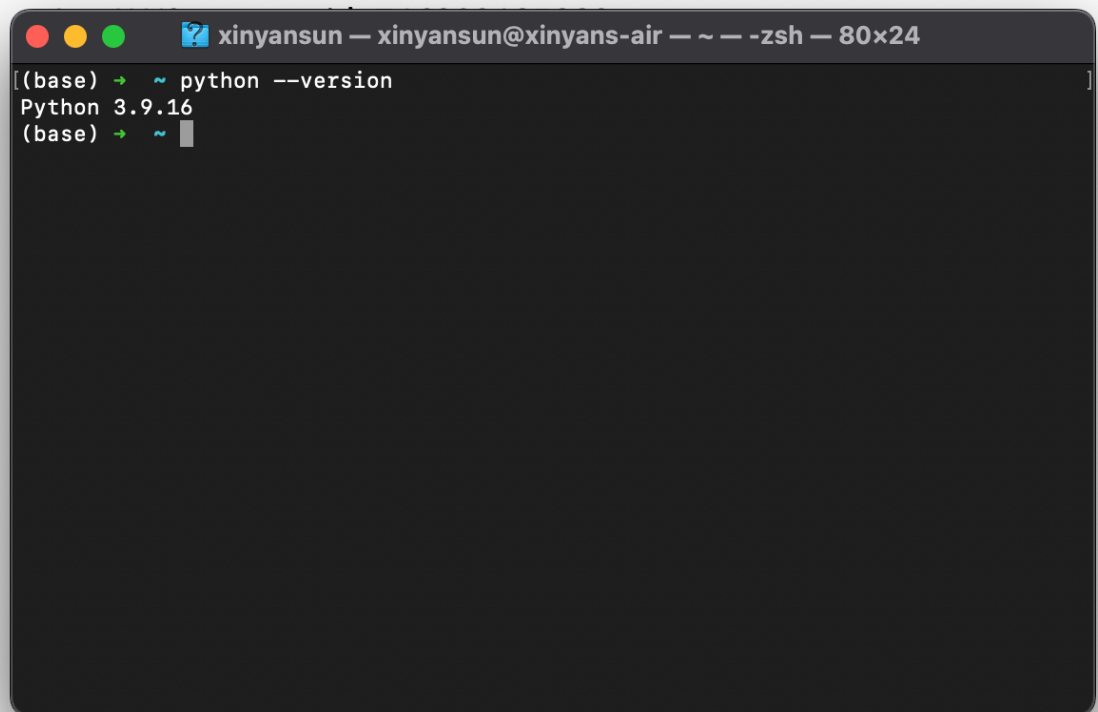
Xinyan Sun

Part 1

1. AWS account id: 746083105003
 2. Python installation:
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Homework 1

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A terminal window with a dark background and light text. The title bar at the top shows three colored window control buttons (red, yellow, green) followed by the text 'xinyansun — xinyansun@xinyans-air — ~ — -zsh — 80x24'. The terminal content shows a prompt '(base) → ~' followed by the command 'python --version'. The output is 'Python 3.9.16'. Below the output, the prompt '(base) → ~' is shown again with a cursor, indicating the command has finished execution.

```
xinyansun — xinyansun@xinyans-air — ~ — -zsh — 80x24
(base) → ~ python --version
Python 3.9.16
(base) → ~
```

3. Jupyter Lab:

The screenshot displays the Jupyter Lab web interface in a browser at `localhost:8888/lab`. On the left, a file browser shows the directory `/Recitation 2 / demo /` with files `cmd`, `kafka_demo...`, and `kafka_log...`. The main area is titled `Kafka Demo` and contains a terminal window. The terminal shows the command `jupyter lab` being executed, followed by a series of log messages indicating the successful loading of extensions and the JupyterLab application. The terminal also shows the command `ssh -o ServerAliveInterval=60 -L 9092:localhost:9092 tunnel@128.2.24.106 -NTf` being executed, and the Jupyter Server 1.23.4 is running at `http://localhost:8888/lab?token=d075484aca8f6d0cf8e8c74fa0bf134ee4084fbd9f48c0c` or `http://127.0.0.1:8888/lab?token=d075484aca8f6d0cf8e8c74fa0bf134ee4084fbd9f48c0c`.

```
Please specify a subcommand or one of the optional arguments.
((base) + ~ jupyter lab
[I 2023-09-07 20:55:04.315 ServerApp] jupyterlab | extension was successfully li
nked.
[I 2023-09-07 20:55:04.318 ServerApp] nbclassic | extension was successfully lin
ked.
[I 2023-09-07 20:55:04.572 ServerApp] notebook_shim | extension was successfully
linked.
[I 2023-09-07 20:55:04.644 ServerApp] notebook_shim | extension was successfully
loaded.
[I 2023-09-07 20:55:04.645 LabApp] JupyterLab extension loaded from /Users/xinya
nsun/opt/anaconda3/lib/python3.9/site-packages/jupyterlab
[I 2023-09-07 20:55:04.645 LabApp] JupyterLab application directory is /Users/xi
nyansun/opt/anaconda3/share/jupyter/lab
[I 2023-09-07 20:55:04.648 ServerApp] jupyterlab | extension was successfully lo
aded.
[I 2023-09-07 20:55:04.651 ServerApp] nbclassic | extension was successfully loa
ded.
[I 2023-09-07 20:55:04.651 ServerApp] Serving notebooks from local directory: /U
sers/xinyansun
[I 2023-09-07 20:55:04.652 ServerApp] Jupyter Server 1.23.4 is running at:
[I 2023-09-07 20:55:04.652 ServerApp] http://localhost:8888/lab?token=d075484aca
8f6d0cf8e8c74fa0bf134ee4084fbd9f48c0c
[I 2023-09-07 20:55:04.652 ServerApp] or http://127.0.0.1:8888/lab?token=d07548
4aca8f6d0cf8e8c74fa0bf134ee4084fbd9f48c0c

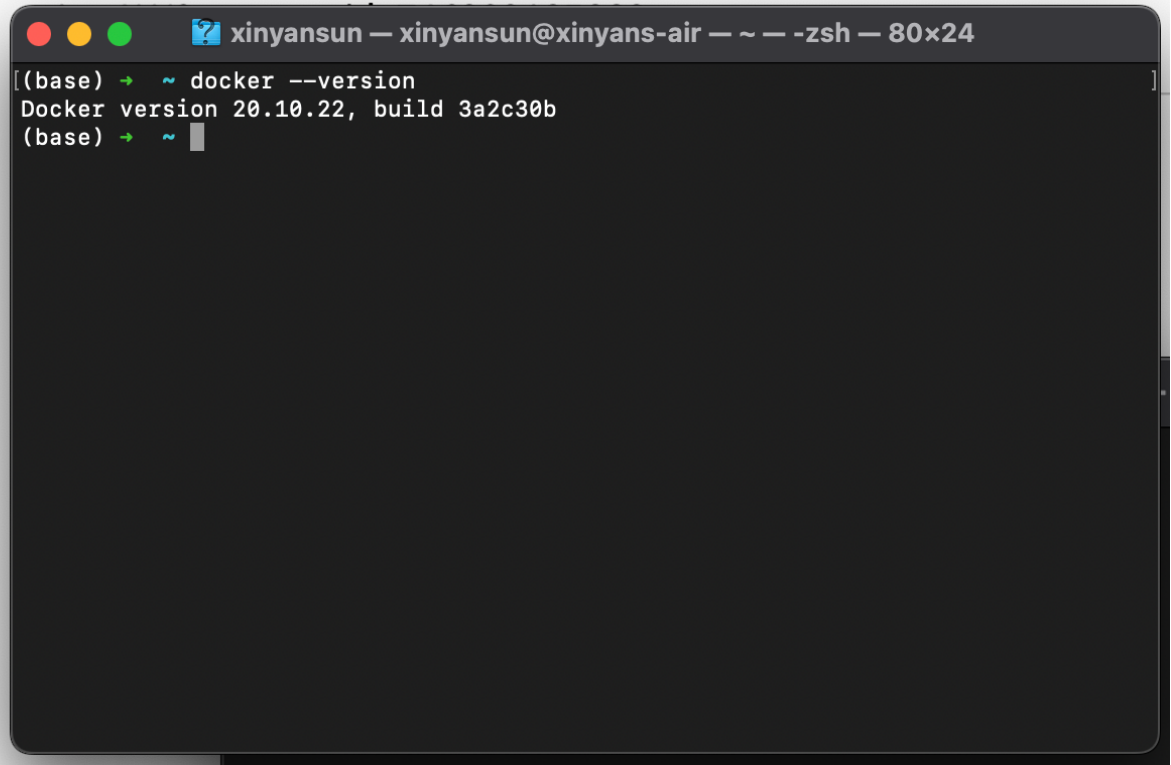
from time import sleep
from random import randint
import numpy as np
# ssh -o ServerAliveInterval=60 -L 9092:localhost:9092 tunnel@128.2.24.106 -NTf
from kafka import KafkaConsumer, KafkaProducer

# Update this for your demo otherwise you'll see my data :)
topic = 'xinyans'
```

4. Docker:

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A terminal window with a dark background and light text. The window title bar shows 'xinyansun — xinyansun@xinyans-air — ~ — -zsh — 80x24'. The terminal content shows a prompt '[(base) → ~]' followed by the command 'docker --version'. The output is 'Docker version 20.10.22, build 3a2c30b'. The prompt then returns to '[(base) → ~]' with a cursor.

```
xinyansun — xinyansun@xinyans-air — ~ — -zsh — 80x24
[(base) → ~ docker --version
Docker version 20.10.22, build 3a2c30b
[(base) → ~ ]
```

Part 2

1.