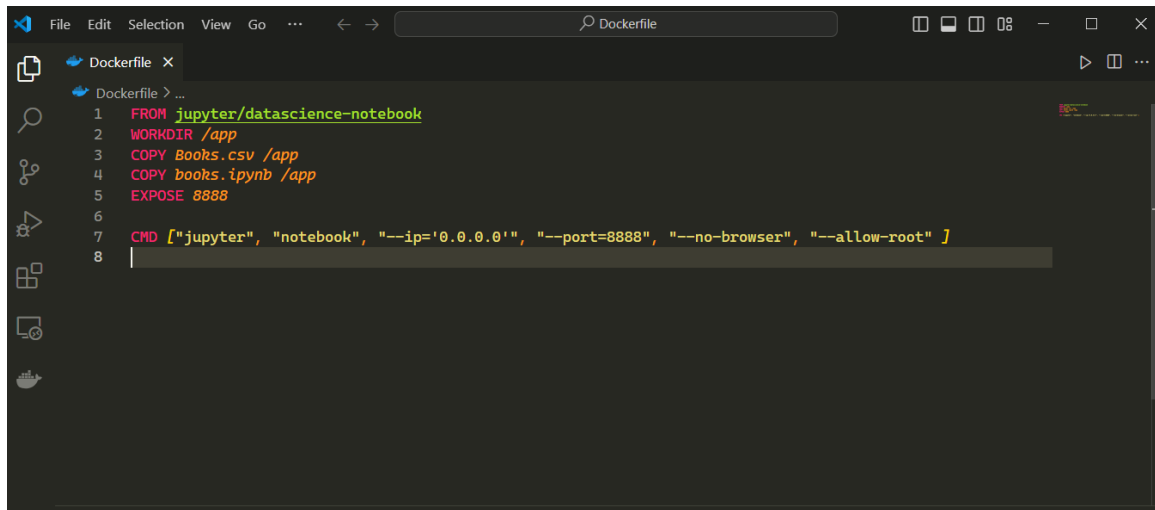


Docker assignment

Name: Farida Mohamed Hesham

ID:2203159

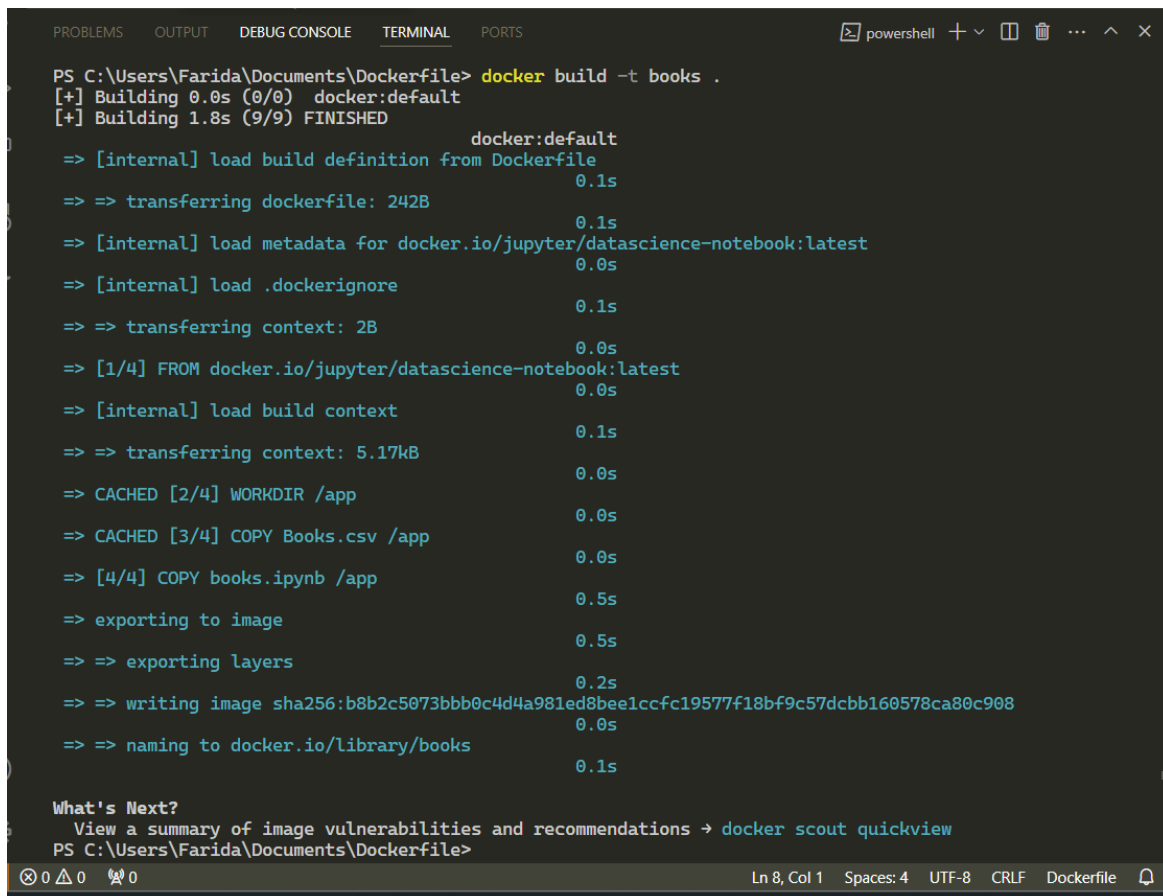
Docker file:



A screenshot of a code editor showing a Dockerfile. The file is named 'Dockerfile' and is located in a directory. The content of the Dockerfile is as follows:

```
1 FROM jupyter/datascience-notebook
2 WORKDIR /app
3 COPY Books.csv /app
4 COPY books.ipynb /app
5 EXPOSE 8888
6
7 CMD ["jupyter", "notebook", "--ip='0.0.0.0'", "--port=8888", "--no-browser", "--allow-root" ]
8
```

Terminal:



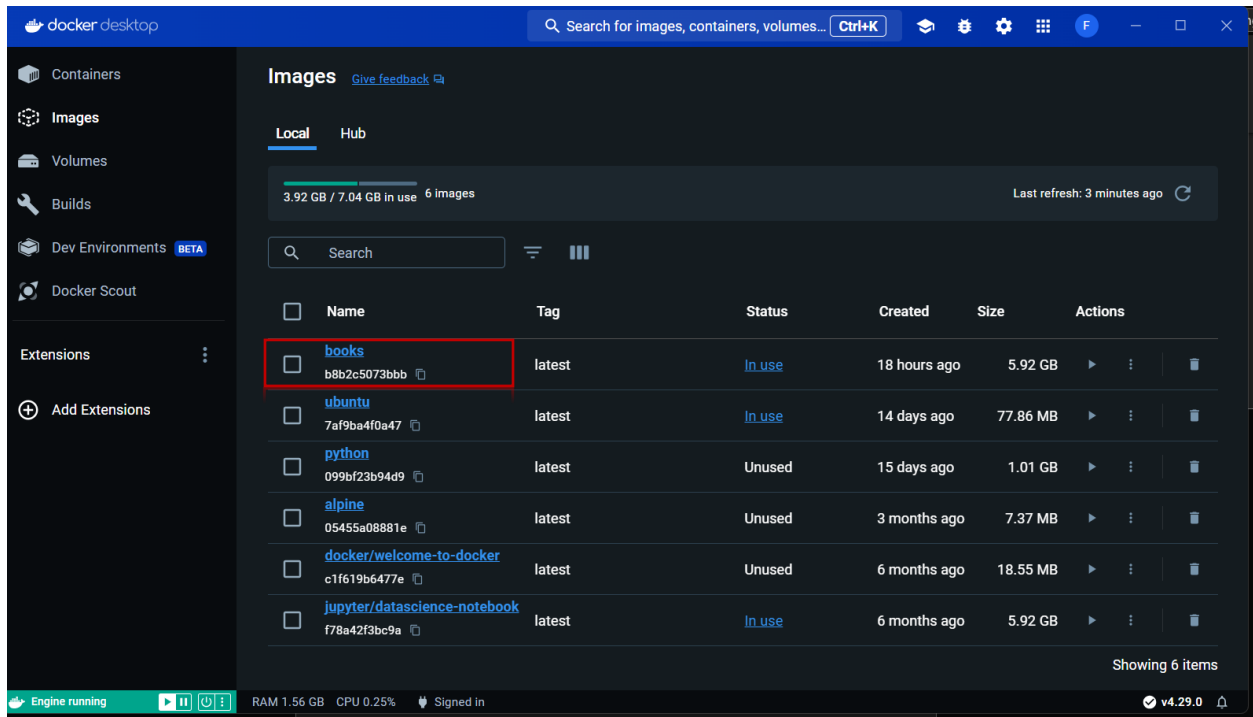
A screenshot of a terminal window showing the output of a Docker build command. The command executed is `docker build -t books .`. The output shows the build process, including the transfer of the Dockerfile, the loading of metadata for the base image, and the copying of files into the container. The build is successful, and the image is named `books`.

```
PS C:\Users\Farida\Documents\Dockerfile> docker build -t books .
[+] Building 0.0s (0/0) docker:default
[+] Building 1.8s (9/9) FINISHED

=> [internal] load build definition from Dockerfile
    0.1s
=> => transferring dockerfile: 242B
    0.1s
=> [internal] load metadata for docker.io/jupyter/datascience-notebook:latest
    0.0s
=> [internal] load .dockerignore
    0.1s
=> => transferring context: 2B
    0.0s
=> [1/4] FROM docker.io/jupyter/datascience-notebook:latest
    0.0s
=> [internal] load build context
    0.1s
=> => transferring context: 5.17kB
    0.0s
=> CACHED [2/4] WORKDIR /app
    0.0s
=> CACHED [3/4] COPY Books.csv /app
    0.0s
=> [4/4] COPY books.ipynb /app
    0.5s
=> exporting to image
    0.5s
=> => exporting layers
    0.2s
=> => writing image sha256:b8b2c5073bbb0c4d4a981ed8bee1ccfc19577f18bf9c57dcbb160578ca80c908
    0.0s
=> => naming to docker.io/library/books
    0.1s

What's Next?
View a summary of image vulnerabilities and recommendations -> docker scout quickview
PS C:\Users\Farida\Documents\Dockerfile>
```

Image:



Container:

The screenshot shows the Docker Desktop interface. On the left is a sidebar with navigation options: Containers, Images, Volumes, Builds, Dev Environments (BETA), and Docker Scout. The main area is titled 'Containers' and shows a summary of container CPU and memory usage, both indicating 'No containers are running.' Below this is a search bar and a toggle for 'Only show running containers'. A table lists the containers:

	Name	Image	Status	Port(s)	CPU (%)	Last started	Actions
<input type="checkbox"/>	harrypotter	a6b0caab39a0 books:latest	Exited (255)	32770:8888	N/A	18 hours ago	
<input type="checkbox"/>	magical_ritc	4d6eb40afe7d jupyter/datascience	Exited (255)		N/A	20 hours ago	
<input type="checkbox"/>	magical_golt	b21a43ddfacc ubuntu	Exited		N/A	7 days ago	
<input type="checkbox"/>	adoring_shaj	1c56de361653 ubuntu	Exited		N/A	7 days ago	

Showing 4 items

The screenshot shows the Docker Desktop interface with the 'harrypotter' container selected. The container details are shown at the top: Name 'harrypotter', Image 'a6b0caab39a0 books:latest', and Port '32770:8888'. The status is 'Exited (255) (8 minutes ago)'. Below this is a tabbed interface with 'Logs' selected. The logs show the following output:

```
2024-04-24 01:20:17 file:///home/jovyan/.local/share/jupyter/runtime/jpserver-7-open.html
2024-04-24 01:20:17 Or copy and paste one of these URLs:
2024-04-24 01:20:17 http://a6b0caab39a0:8888/tree?token=3f6a5133002834adf1f4fcc317b344ac31dc9be11b9c731a
2024-04-24 01:20:17 http://127.0.0.1:8888/tree?token=3f6a5133002834adf1f4fcc317b344ac31dc9be11b9c731a
2024-04-24 01:20:40 [I 2024-04-23 23:20:40.003 ServerApp] Skipped non-installed server(s): bash-language-server, dockerfile-language-server-nodejs, javascript-typescript-l
angserver, jedi-language-server, julia-language-server, pyright, python-language-server, python-lsp-server, r-languageserver, sql-language-server, texlab, typescript-langu
age-server, unified-language-server, vscode-css-languageserver-bin, vscode-html-languageserver-bin, vscode-json-languageserver-bin, yamll-language-server
2024-04-24 01:20:47 [I 2024-04-23 23:20:47.719 ServerApp] 302 GET / (@172.17.0.1) 1.42ms
2024-04-24 01:20:47 [I 2024-04-23 23:20:47.738 JupyterNotebookApp] 302 GET /tree? (@172.17.0.1) 5.21ms
2024-04-24 01:21:19 0.00s - Debugger warning: It seems that frozen modules are being used, which may
2024-04-24 01:21:19 0.00s - make the debugger miss breakpoints. Please pass -Xfrozen_modules=off
2024-04-24 01:21:19 0.00s - to python to disable frozen modules.
2024-04-24 01:21:19 0.00s - Note: Debugging will proceed. Set PYDEVD_DISABLE_FILE_VALIDATION=1 to disable this validation.
2024-04-24 01:22:01 [I 2024-04-23 23:22:01.851 ServerApp] Writing notebook-signing key to /home/jovyan/.local/share/jupyter/notebook_secret
2024-04-24 01:22:01 [W 2024-04-23 23:22:01.852 ServerApp] Notebook books.ipynb is not trusted
2024-04-24 01:22:03 [W 2024-04-23 23:22:03.791 ServerApp] Notebook books.ipynb is not trusted
2024-04-24 01:22:04 [I 2024-04-23 23:22:04.210 ServerApp] Kernel started: 6ab59659-454c-4346-8c53-7187bf03b941
2024-04-24 01:22:05 0.00s - Debugger warning: It seems that frozen modules are being used, which may
2024-04-24 01:22:05 0.00s - make the debugger miss breakpoints. Please pass -Xfrozen_modules=off
2024-04-24 01:22:05 0.00s - to python to disable frozen modules.
2024-04-24 01:22:05 0.00s - Note: Debugging will proceed. Set PYDEVD_DISABLE_FILE_VALIDATION=1 to disable this validation.
2024-04-24 01:22:05 [I 2024-04-23 23:22:05.992 ServerApp] Connecting to kernel 6ab59659-454c-4346-8c53-7187bf03b941.
2024-04-24 01:22:09 [I 2024-04-23 23:22:09.038 ServerApp] Starting buffering for 6ab59659-454c-4346-8c53-7187bf03b941:6d1de4cd-c8b4-4cb9-ab64-335cc87debc1
2024-04-24 01:30:35 [W 2024-04-23 23:30:35.283 ServerApp] Notebook books.ipynb is not trusted
2024-04-24 01:30:37 [W 2024-04-23 23:30:37.164 ServerApp] Notebook books.ipynb is not trusted
2024-04-24 01:30:37 [I 2024-04-23 23:30:37.418 ServerApp] Connecting to kernel 6ab59659-454c-4346-8c53-7187bf03b941.
2024-04-24 01:32:34 [W 2024-04-23 23:32:34.984 ServerApp] Notebook books.ipynb is not trusted
2024-04-24 01:32:37 [W 2024-04-23 23:32:37.372 ServerApp] Notebook books.ipynb is not trusted
2024-04-24 01:32:37 [I 2024-04-23 23:32:37.584 ServerApp] Connecting to kernel 6ab59659-454c-4346-8c53-7187bf03b941.
2024-04-24 01:33:34 [I 2024-04-23 23:33:34.808 ServerApp] Starting buffering for 6ab59659-454c-4346-8c53-7187bf03b941:406830b4-1f34-4c7d-895f-bb8399264623
```

Code:

```
import pandas as pd

# Read the CSV file
books = pd.read_csv("C:\\Users\\Farida\\Documents\\College\\Semester 4\\Cloud Computing\\Books.csv")

# Data Cleaning
books.dropna(inplace=True)
books.drop_duplicates(inplace=True)

# Preprocessing
harry_potter_df = books[books['title'].str.contains('Harry Potter')]

most_selling_books = harry_potter_df.sort_values(by='books_count', ascending=False).head()

# Calculate Average Rating
average_rating = harry_potter_df['average_rating'].mean()

# Display the results
print("Most Selling Harry Potter Books:")
print(most_selling_books)
print("\nAverage Rating of Harry Potter Books:", average_rating)
```

Python

Output:

```
... Most Selling Harry Potter Books:
   book_id  goodreads_book_id  best_book_id  work_id  books_count  \
1         2                   3             3  4640799         491
9         23                15881          15881  6231171         398
6         18                   5             5  2402163         376
10        24                   6             6  3046572         332
8         21                   2             2  2809203         307

   isbn  isbn13  authors  \
1  439554934  9.780440e+12  J.K. Rowling, Mary GrandPré
9  439064864  9.780439e+12  J.K. Rowling, Mary GrandPré
6  043965548X  9.780440e+12  J.K. Rowling, Mary GrandPré, Rufus Beck
10 439139600  9.780439e+12  J.K. Rowling, Mary GrandPré
8  439358078  9.780439e+12  J.K. Rowling, Mary GrandPré

   original_publication_year  original_title  ...  \
1          1997.0  Harry Potter and the Philosopher's Stone  ...
9          1998.0  Harry Potter and the Chamber of Secrets  ...
6          1999.0  Harry Potter and the Prisoner of Azkaban  ...
10         2000.0  Harry Potter and the Goblet of Fire  ...
8          2003.0  Harry Potter and the Order of the Phoenix  ...

   ratings_count  work_ratings_count  work_text_reviews_count  ratings_1  \
1       4602479          4800065          75867          75504
9       1779331          1906199          34172          8253
...
```

[5 rows x 23 columns]

Average Rating of Harry Potter Books: 4.4910000000000005

Output is truncated. View as a [scrollable element](#) or open in a [text editor](#). Adjust cell output [settings](#)...