Intro Hugging Face and Python

Dirk Wulff & Zak Hussain

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WHY IS HUGGING FACE?

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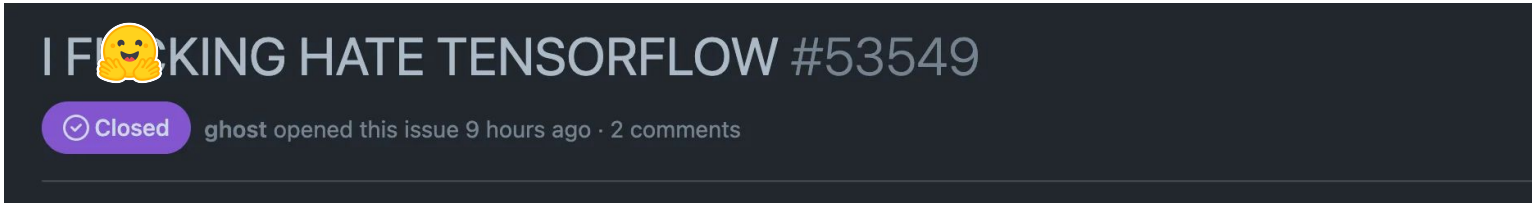

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1. Find out the model architecture
2. Implement the model architecture in code with deep learning libraries (e.g PyTorch/Tensorflow).
3. Load the pretrained weights (if available) from a server.
4. Process the inputs (using the correct tokenizer for the model)
5. Implement data loaders
6. Define a loss function
7. Stick a task-specific “head” on the model

HUGGING FACE PIPELINES

Import pipeline

```
from transformers import pipeline
```

Initialise pipeline

```
pipe = pipeline('text-generation', model='gpt2')
```

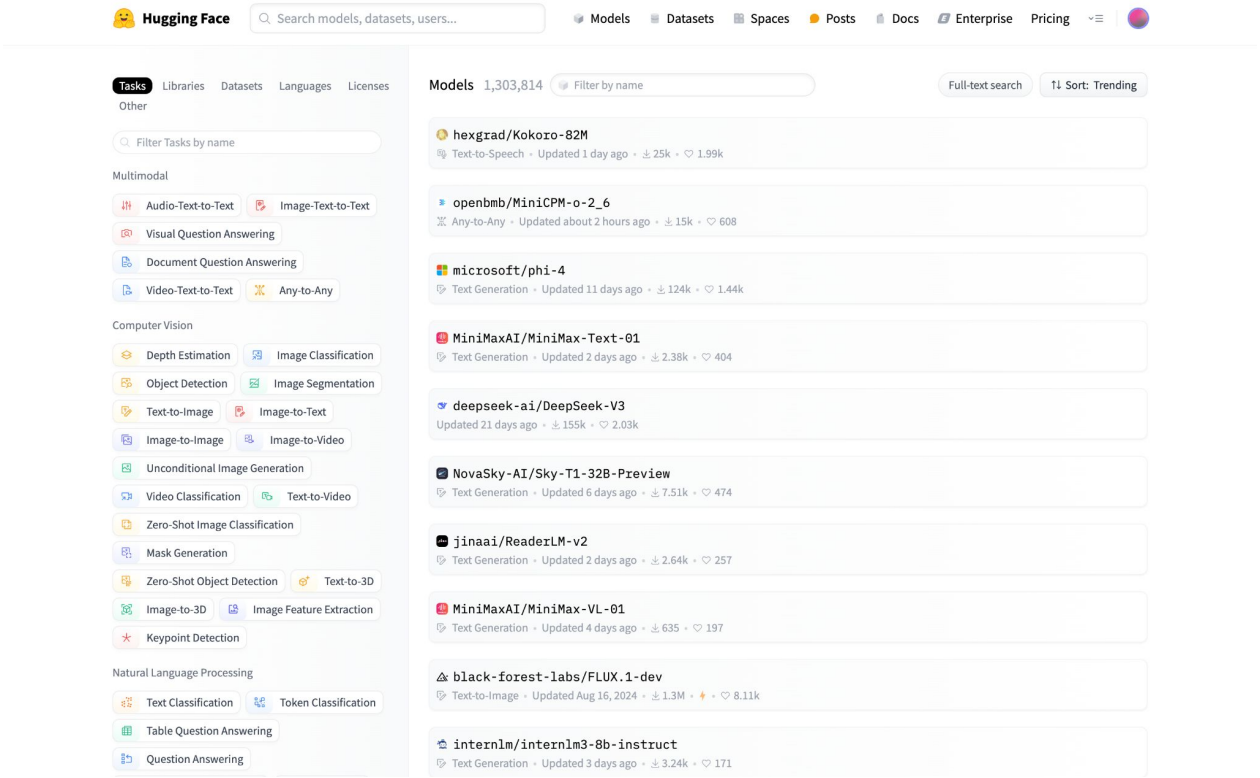
Load model input

```
prompt = """
Once upon a time in a land far far away, there was a young prince named
John. He was known for his bravery and courage. One day, he decided to go on
an adventure to explore the unknown lands.
"""`
```

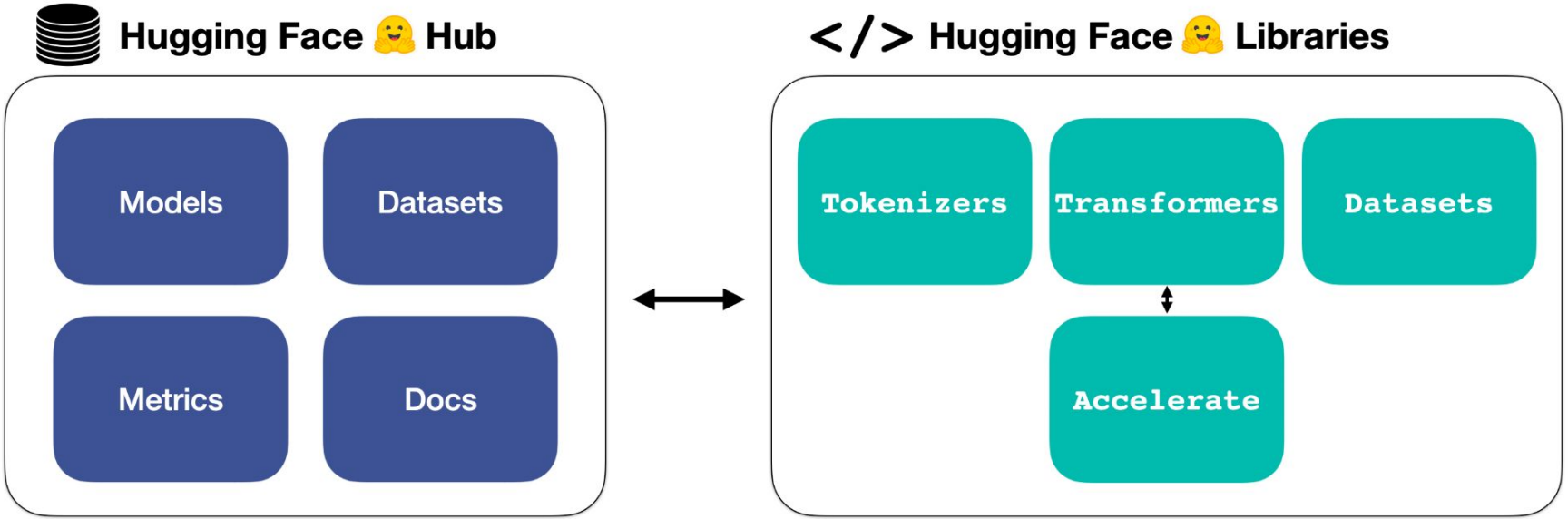
Feed input the model

```
output = pipe(prompt, max_length=100)
print(output)
```

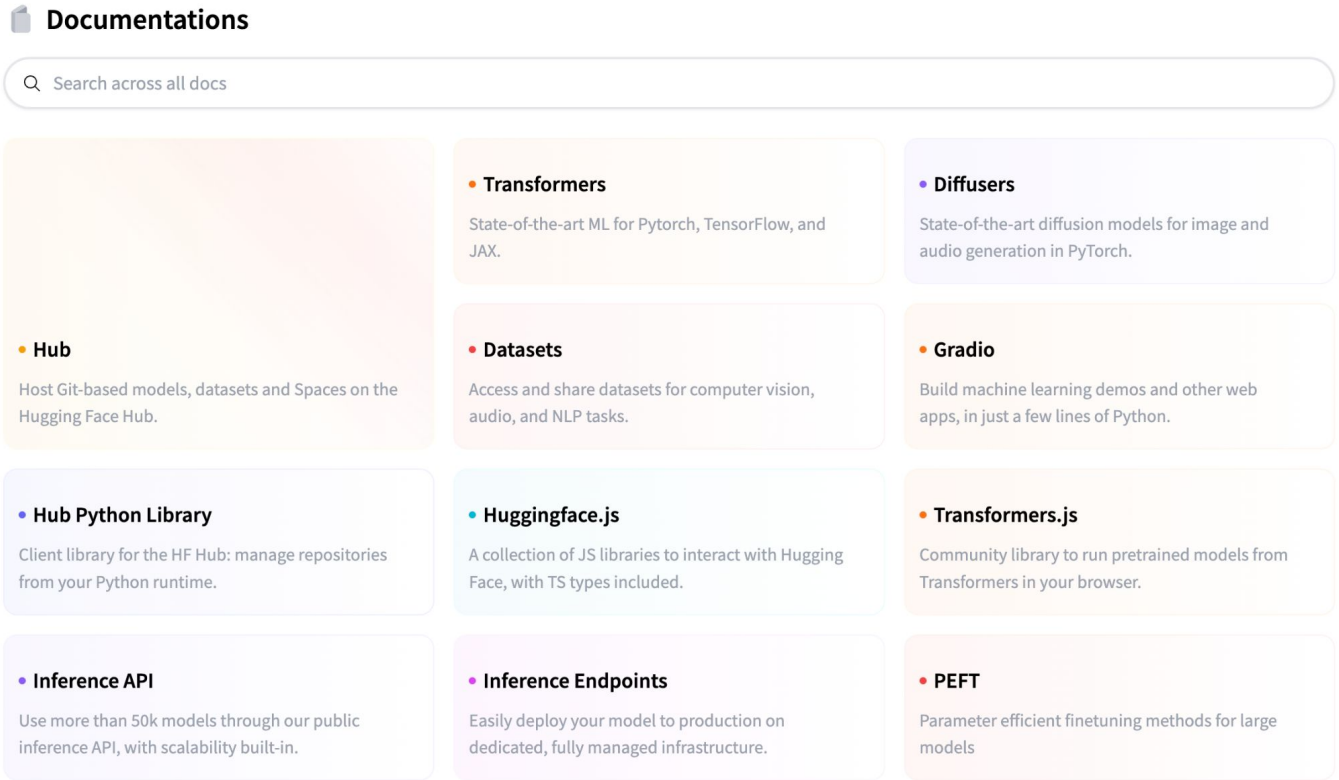
HUGGING FACE



THE HUGGING FACE ECOSYSTEM



HUGGING FACE DOCUMENTATION



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PYTHON 

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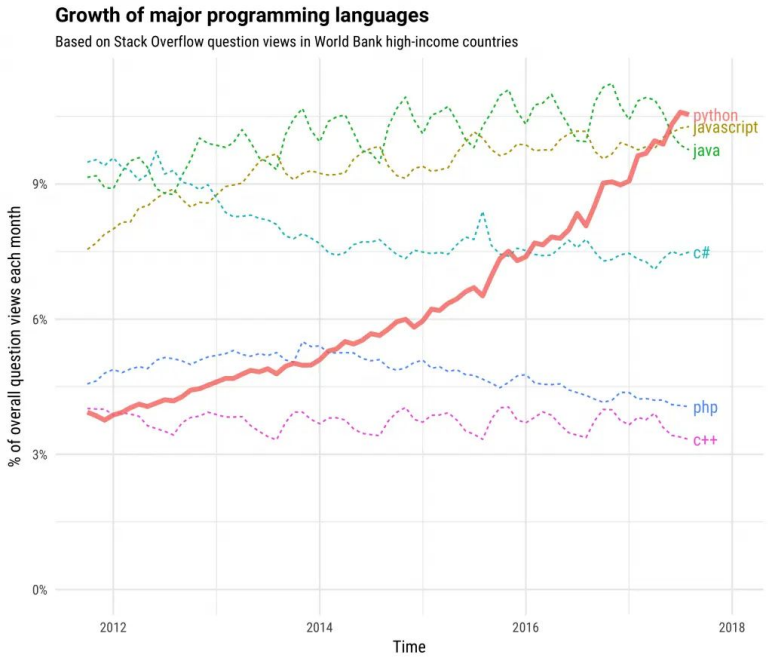
- A **high-level** programming language known for its simplicity and readability.
- Used in various domains such as web development, data analysis, **artificial intelligence**, and scientific computing.



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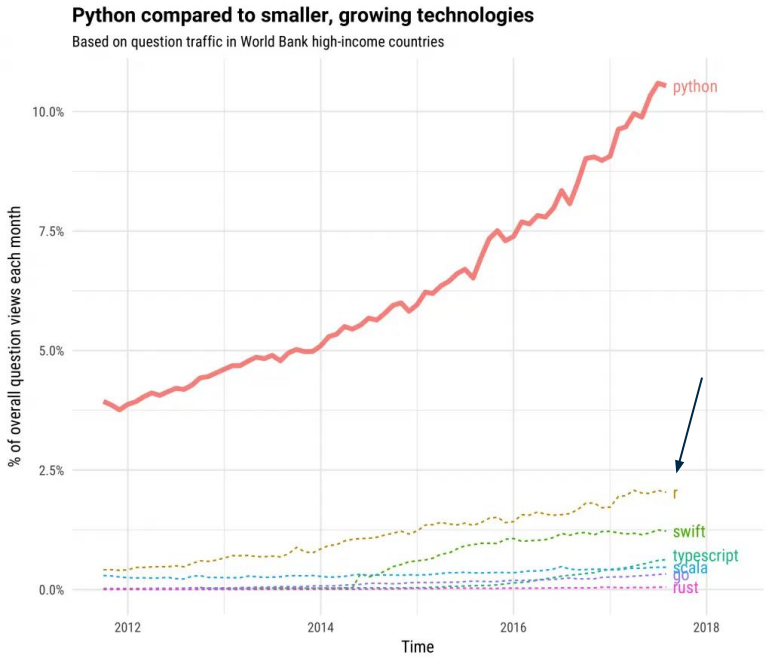

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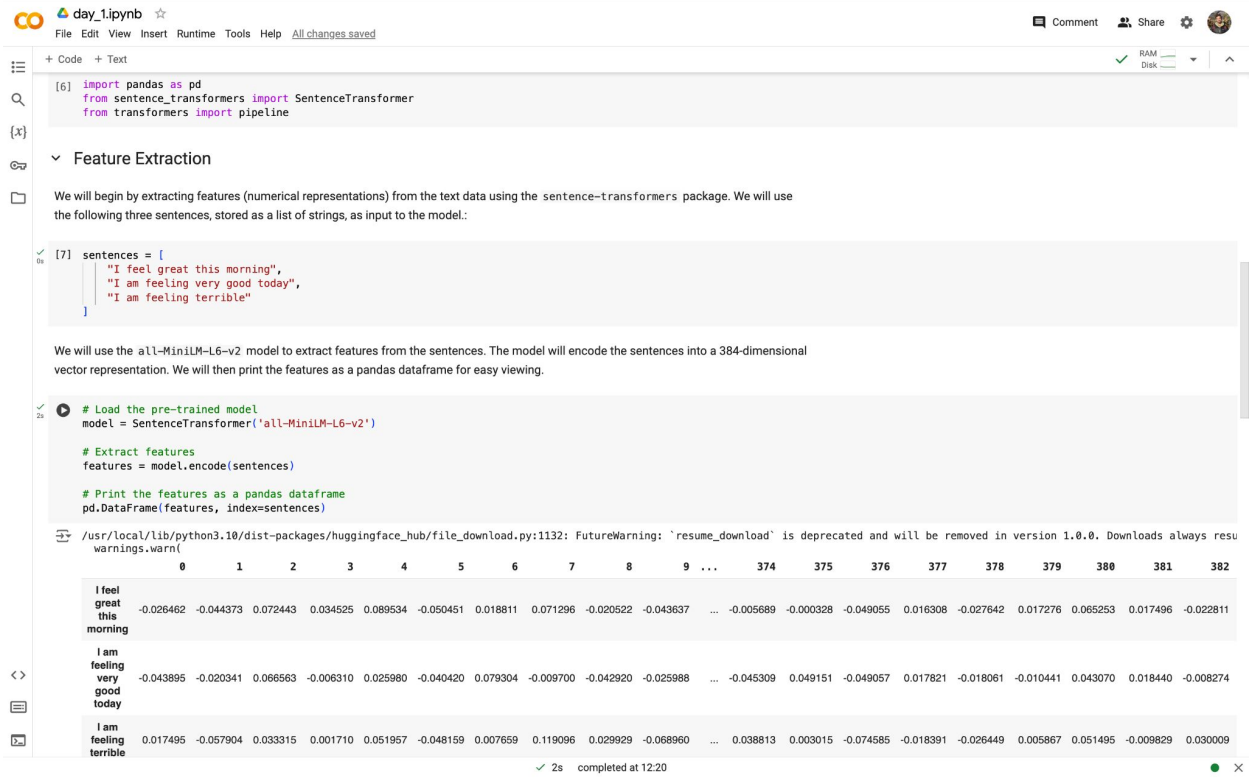
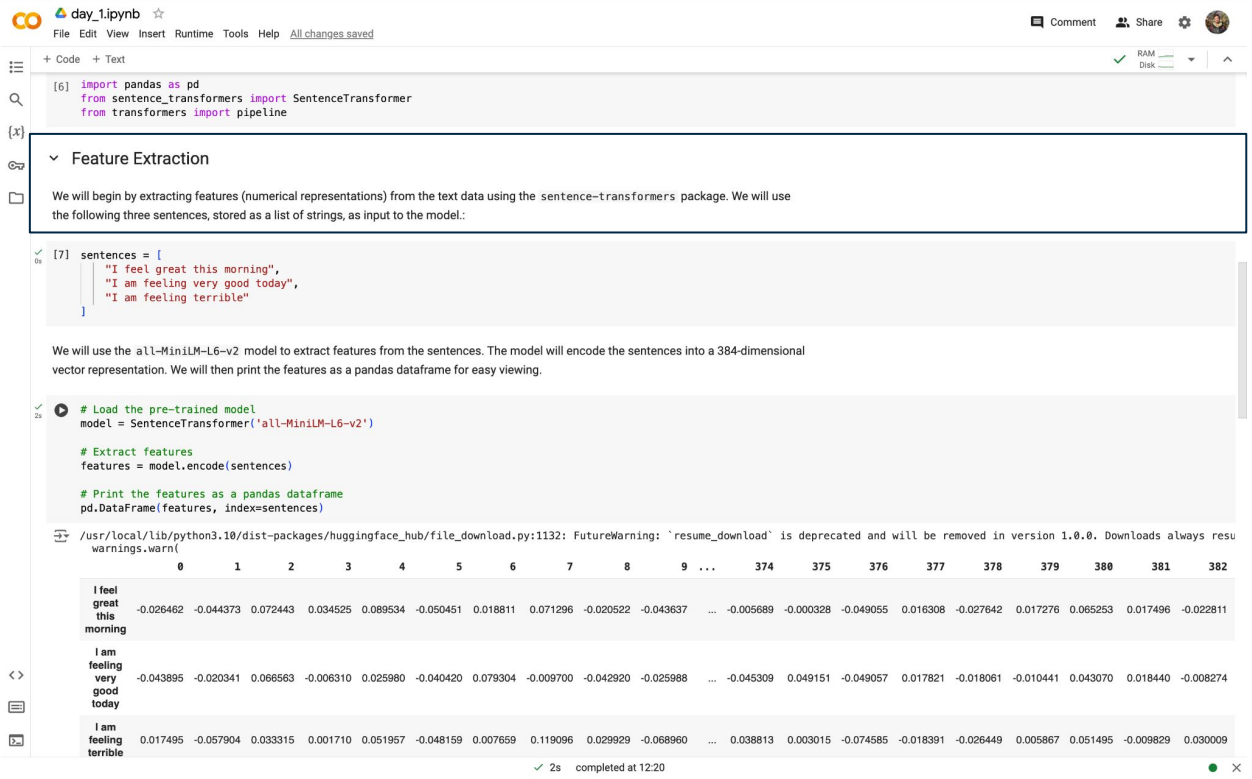
PYTHON  + Google Colab 

PYTHON + Google Colab



PYTHON + Google Colab

1. Markdown



PYTHON + Google Colab

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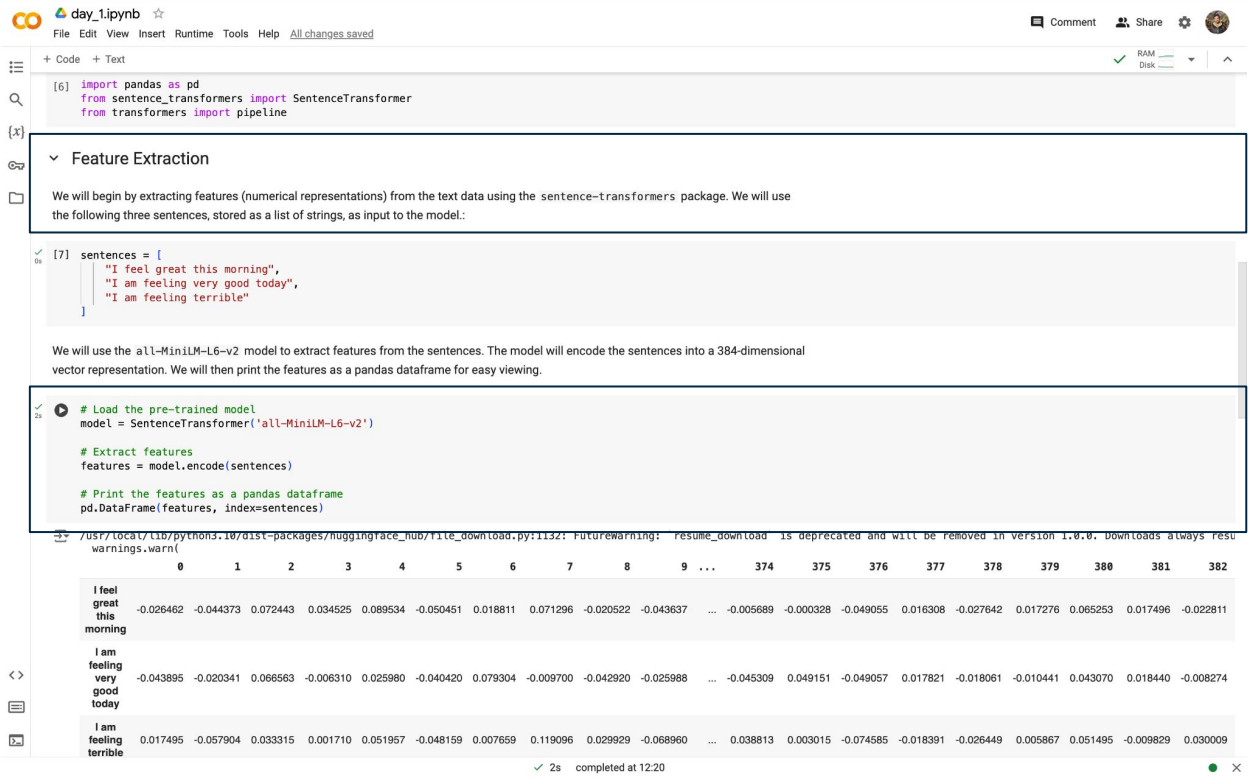
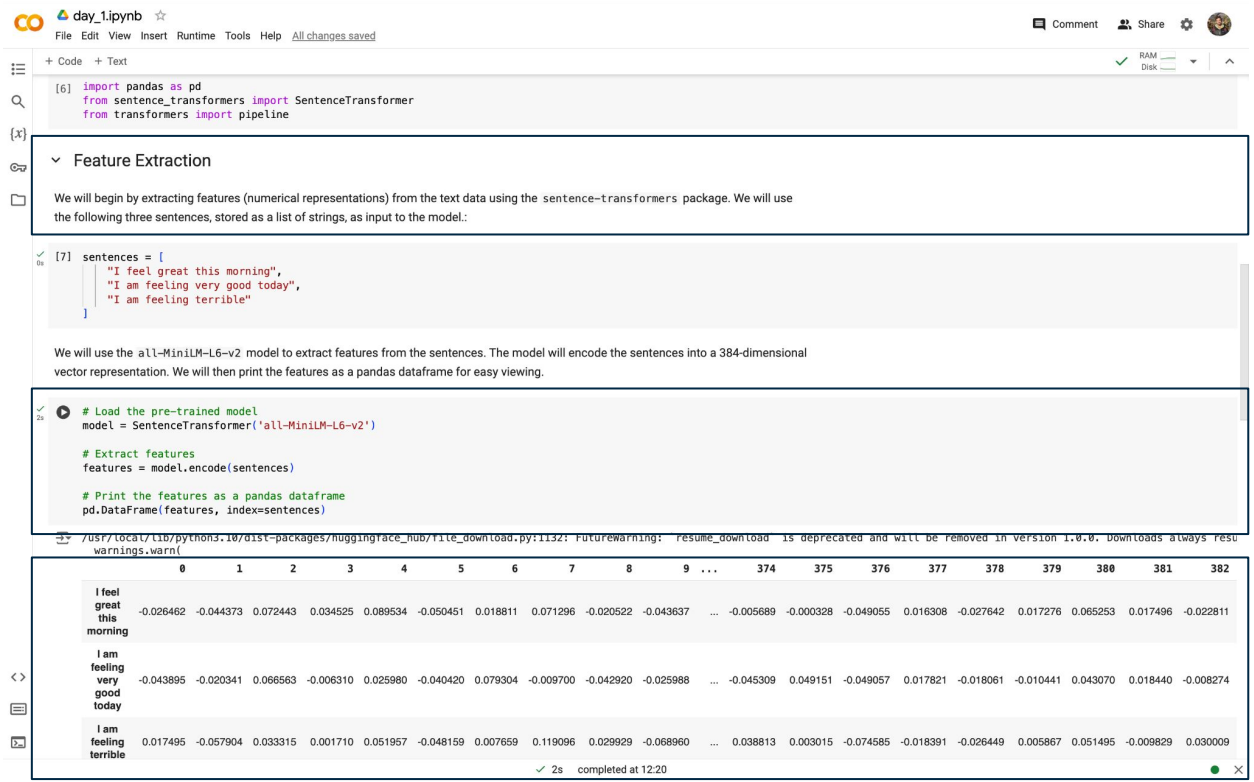


PYTHON + Google Colab

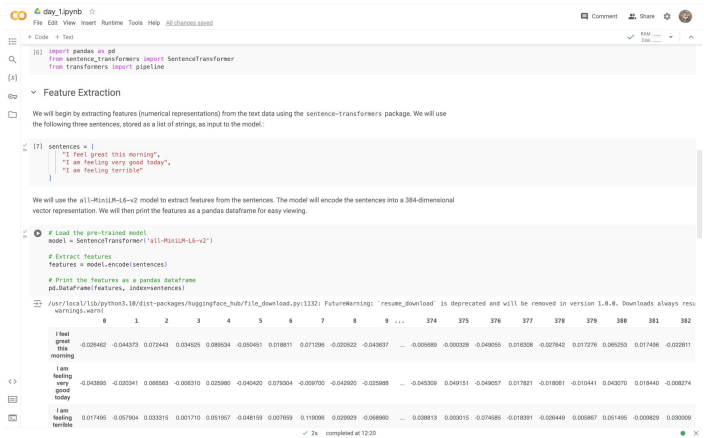
1. Markdown

2. Code

3. Printouts



PYTHON + Google Colab



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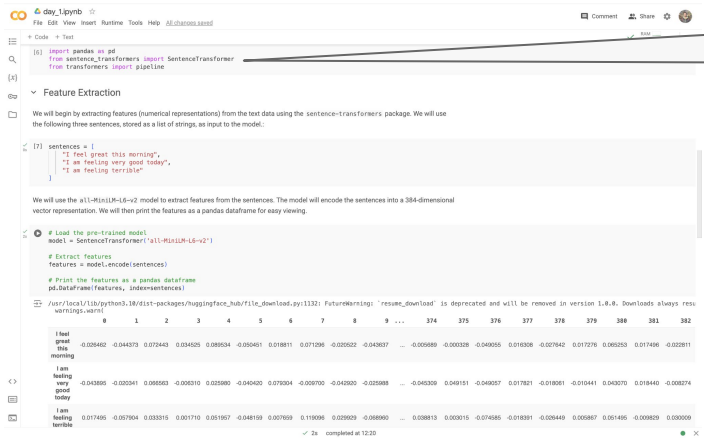

package imports

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import pandas as pd
from sentence_transformers import SentenceTransformer
from transformers import pipeline
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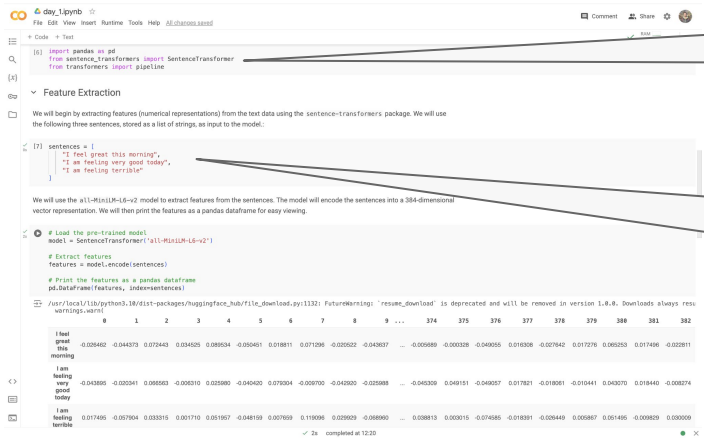
PYTHON + Google Colab



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variable assignment, lists, strings

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sentences = [
    "I feel great this morning",
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    "I am feeling terrible"
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PYTHON + Google Colab

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dot notation, methods, attributes

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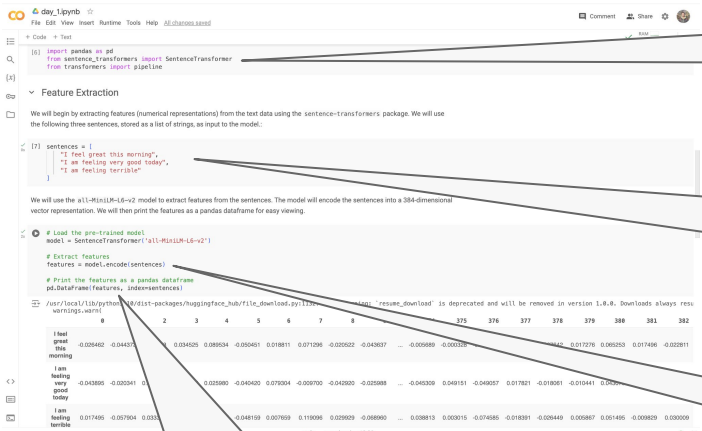
PYTHON + Google Colab



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printing

```
# Print the features as a pandas dataframe
pd.DataFrame(features, index=sentences)
```

```
/usr/local/lib/python3.10/dist-packages/huggingface_hub/file_download.py:
  warnings.warn(
```

	0	1	2	3	4	5	6
I feel great this morning	-0.026462	-0.044373	0.072443	0.034525	0.089534	-0.050451	0.018811	0.
I am feeling very good today	-0.043895	-0.020341	0.066563	-0.006310	0.025980	-0.040420	0.079304	-0.

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Time to install our stack…

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day_2	task numbering change	2 days ago
day_3	update results	2 days ago
day_4	fix task ref	2 days ago
day_5	fix task ref	2 days ago
.gitignore	Initial commit	2 weeks ago
LICENSE.txt	add LICENSE.txt	2 weeks ago
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About

This course introduces the use of open-source large language models (LLMs) from the Hugging Face ecosystem for research in the behavioral and social sciences.

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