CS356 -lab08:3g - Branden-Codd, 940428984

1. APIs #1 (Vision, Speech, Translate, Natural Language APIs)

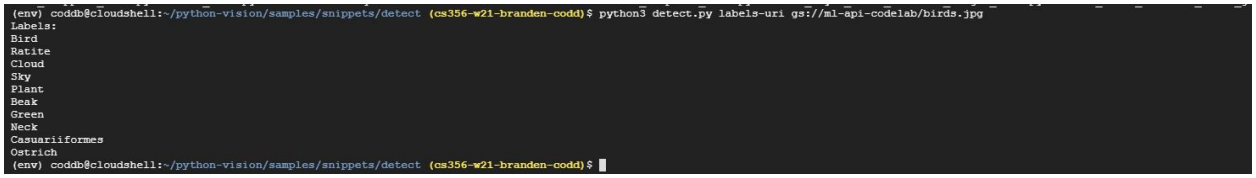
- No screenshots or observations

2. IAM service account setup

- No screenshots or observations

3. Vision

Show the output for your lab notebook



Answer the following questions:

- What is the name of the function?
  - detect_labels
- What type of Vision client is instantiated in it?
  - imageAnnotatorClient
- What method is invoked in the Vision client to perform the detection?
  - label_detection
- What is the name of the attribute in the response object that contains the results we seek?
  - Label_annotations

Logo i used:

https://upload.wikimedia.org/wikipedia/en/4/43/Souther_Oregon_University_seal.png

- Take a screenshot of the output for the above commands

- What method is invoked in the Vision client to perform the detection?
  - Detect_logos

4. Speech

- Show the output for your lab notebook

```
(env) coddb@cloudshell:~/python-vision/samples/snippets/detect (cs356-w21-branden-codd)$ cd ~/python-speech/samples/snippets
(env) coddb@cloudshell:~/python-speech/samples/snippets (cs356-w21-branden-codd)$ python3 transcribe.py resources/audio.raw
Transcript: how old is the Brooklyn Bridge
(env) coddb@cloudshell:~/python-speech/samples/snippets (cs356-w21-branden-codd)$
```

Open up transcribe.py. Given the arguments of the above command, find the function that is called which handles this particular translation.

Answer the following questions:

- What is the name of the function?
    - transcribe_file
- What method is invoked in the Speech client to perform the detection?
    - Recognize
- What is the name of the attribute in the response object that contains the results we seek?
    - alternatives[].transcript

5. Translate

Run a detection that returns the English translation of a Chinese sentence.

```
python snippets.py translate-text en '你有沒有帶外套'
```

- Show the output for your lab notebook

```
(env) coddb@cloudshell:~/python-translate/samples/snippets (cs356-w21-branden-codd)$ python snippets.py translate-text en '你有沒有帶外套'
Text: 你有沒有帶外套
Translation: Did you bring a jacket
Detected source language: zh-TW
```

Open up snippets.py. Given the arguments of the above command, find the function that is called which handles this particular translation.

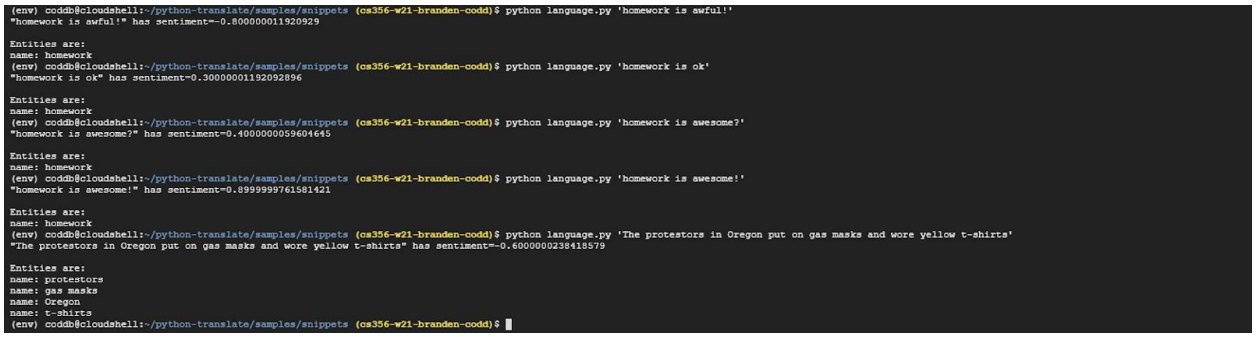
Answer the following questions:

- What is the name of the function?
    - translate_text
- What method is invoked in the Translate client to perform the detection?
    - translate
- What is the name of the attribute in the response object that contains the results we seek?

- Translated text

6. Natural Language

- Show the output for your lab notebook



7. Integration

- No screenshots or observations

8. Code

Examine the code and answer the following questions:

- What is the name of the function that performs the transcription?
  - transcribe_gcs
- What is the name of the function that performs the translation?
  - translate_text
- What is the name of the function that performs the entity analysis on the translation?
  - entities_text
- What is the name of the function that performs the entity analysis on the image?
  - Compare_audio_to_image

9. Test integration

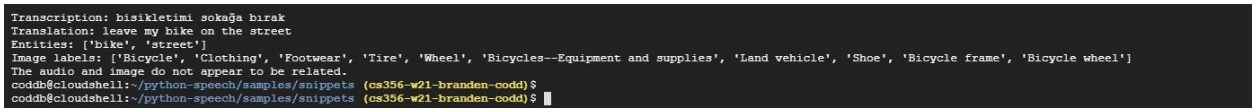
Run the following test. If the program deems them unrelated, then based on the results from the APIs, what must be changed in the program to address this?

python3 solution.py de-DE gs://ml-api-codelab/de-ball.wav gs://ml-api-codelab/football.jpg

- possible issue stems from a difference in football in the west vs the rest of the world.
- We would either need to rename the image from football.jpg to soccer.jpg
- Could also be cap sensitivity

Run the following test. If the program deems them unrelated, then based on the results from the APIs, what must be changed in the program to address this?

python3 solution.py tr-TR gs://ml-api-codelab/tr-bike.wav gs://ml-api-codelab/bicycle.jpg



- The issue is the naming, it is unable to distinguish that a bicycle = bike. We would need to rename the image to bike.jpg

Run the following test. If the program deems them unrelated, then based on the results from the APIs, what must be changed in the program to address this?

python3 solution.py tr-TR gs://ml-api-codelab/tr-ostrich.wav gs://ml-api-codelab/birds.jpg

- (note my result screenshot got deleted and i no longer have the lab up and running)
- it is unable to distinguish that an ostrich is a bird. It is able to tell that they are a group of flightless birds called ratites.
- We would either need to rename the image to ostrich or ratites.
- Could also be an issue with plural vs singular

10. APIs #2 (Video Intelligence API)

- No screenshots or observations

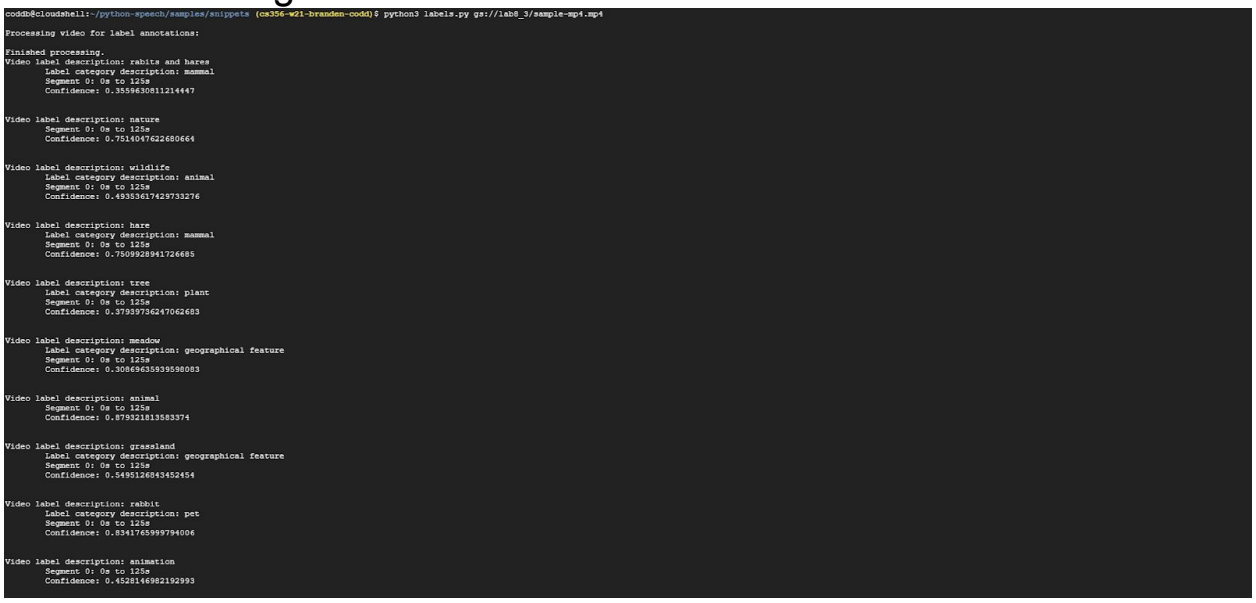
11. Video setup

- No screenshots or observations

12. Video Intelligence labeling script

- No screenshots or observations

13. Video Intelligence



Answer the following for your lab notebook.

- What are the top 3 labels that the Video Intelligence API associates with the video and what is its confidence in them?
    - `Video label description: animal`
    - `Segment 0: 0s to 125s`
    - `Confidence: 0.879321813583374`
    - `Video label description: rabbit`
    - `Label category description: pet`
    - `Segment 0: 0s to 125s`
    - `Confidence: 0.8341765999794006`
    -
    - `Video label description: nature`
    - `Segment 0: 0s to 125s`
    - `Confidence: 0.7514047622680664`

Open up labels.py. Answer the following questions:

- What is the name of the client class in the package that is used?
    - videointelligence
- What method is used in that class to perform the annotation?
    - Annotate video

14. APIs #3 (Web site integration)

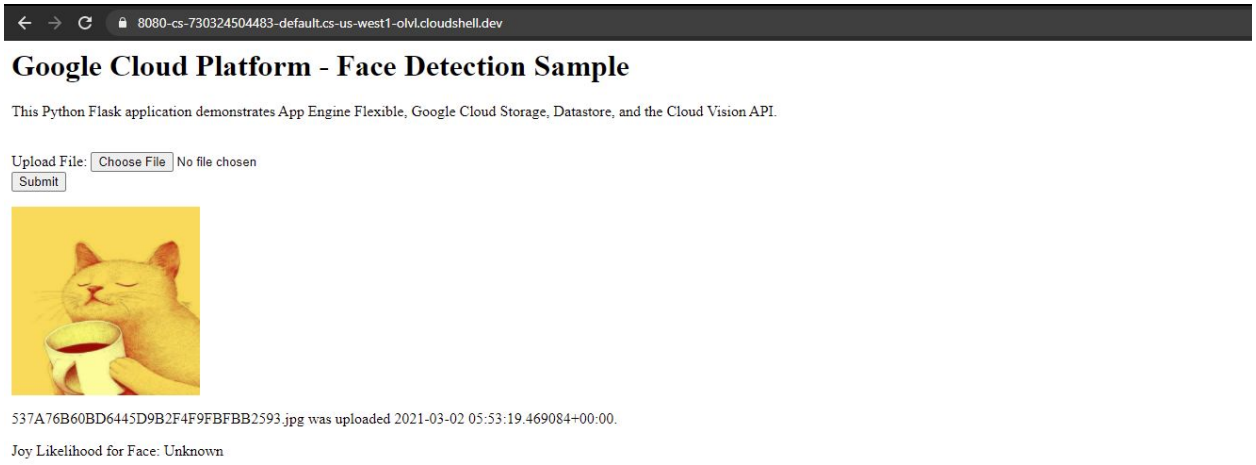
- No screenshots or observations

15. IAM service account setup

- No screenshots or observations

16. Application

- Take a screenshot for your lab notebook that includes the URL.



17. Code

Open `main.py` and view the code for the default route. Answer the following questions:

- What line of code creates the query for previous detections?
  - 39
- What line of code sends the query to Cloud Datastore?
  - 40

Then, view the `upload_photo` route.

- Show the line that retrieves the name of the storage bucket to use.
  - 54
- What form field is used to specify the uploaded photo?
  - file
- Show the line that copies the photo's contents to the storage bucket.

    - 58
- What method in Vision's annotation client is used to perform the analysis?
    - face_detection
- What fields are stored in Cloud Datastore for each image?
    - Blob_name
    - storage_public_url
    - Timestamp
    - joy
- What happens at the end of the `upload_photo` route?
    - Return redirect(“/”)
    - Returned to the home page