Lab - 3 - Task 2

Objective:

Write a Python program to count lines of a file that is placed in GCS executing using Google Cloud Functions, and print out.

Instructions:

1. Start your VM.

2. Make sure you have [gsutil](#) and Python installed on it.

3. Create Cloud Storage bucket (using Cloud console)
   a. Reference: [link](#)
   b. Select 'Region' in the 'Choose where to store your data' and continue with the default settings.

4. Once the bucket is ready, enable the Cloud Functions and Cloud Storage APIs.

5. Your cloud function (python code) should have access to `google-cloud-storage` library. Run the following command:
   ```
   echo 'library_name' >> requirements.txt
   ```
   This command will write/append the python *library name* into `requirements.txt` file. As a result, the library will automatically get installed for the Cloud function.

6. Write a python code for counting the number of lines. You can refer to this [link](#).
   a. The name of the python file should be: `main.py`
   b. It should have the following format:

```python
def FUNCTION_NAME(data, context):
    """Background Cloud Function to be triggered by Cloud Storage.
       This generic function logs relevant data when a file is changed.

    Args:
        data (dict): The Cloud Functions event payload.
        context (google.cloud.functions.Context): Metadata of triggering
event.
    Returns:
        None; the output is written to Stackdriver Logging
    """
    # Every time when you copy a file into the bucket, it triggers the
function. File name is stored in 'name' attribute in the data
dictionary.
    file = data['name']
    # Write your code here
```

7. To deploy the function, run the following command in the directory where the sample code is located:

```
gcloud functions deploy FUNCTION_NAME --runtime python37
--trigger-resource YOUR_TRIGGER_BUCKET_NAME --trigger-event
google.storage.object.finalize
```

8. To trigger the function:

- Upload the file that you want to read to Cloud Storage in order to trigger the function:

```
gsutil cp file_path gs://YOUR_TRIGGER_BUCKET_NAME
```

where `YOUR_TRIGGER_BUCKET_NAME` is the name of your Cloud Storage bucket where you will upload a test file.

- Check the logs to make sure the executions have completed:

```
gcloud functions logs read --limit 50
```