Follow the instructions below to set up your local development environment. You can also use your Google Cloud Instance for running this project. In both the cases, you will need to obtain the credentials file and create a dataset on BigQuery where you will save your tables.

1) Install the google cloud SDK library :
Run the following command in your terminal to install the required library:

```
pip install --upgrade google-cloud-storage click
```

2) Open the URL below:
https://cloud.google.com/bigquery/docs/quickstarts/quickstart-client-libraries#bigquery-simple-app-local-dev-python
(Make sure you are signed in using your cloud.cs account)

3) Create a Project by clicking on the button:
If you already created a project before, you can use the same project and skip to step 5. Otherwise, you can follow step 3 and 4 to create a new project.

Click on the "GO TO THE MANAGE RESOURCES PAGE" button.

Before you begin

1. Select or create a GCP project.

   GO TO THE MANAGE RESOURCES PAGE ⟵

2. Make sure that billing is enabled for your project.

   LEARN HOW TO ENABLE BILLING

3. Enable the Google BigQuery API.

   ENABLE THE API

4) Create a new project
Click on create a project button on the top and fill in details about your project as shown below. Click on the create button to finish creating your project. Make sure you select the Billing Account as COMS 4111 Introduction to Databases.

New Project

> ⚠ You have 21 projects remaining in your quota. Request an increase or delete projects.
> Learn more
>
> **MANAGE QUOTAS**

Project Name *
w4111-project-2   ❓

Project ID: **w4111-project-2-222900**. It **cannot be changed later.**   EDIT

Billing account *
COMS 4111 Introduction to Databases   ▼

Any charges for this project will be billed to the account you select here.

Location *
🏢 No organization   BROWSE

Parent organization or folder

CREATE   **CANCEL**

5) Click on the "Enable API" button

Once the project has been created, click on the "ENABLE API" button in the URL which has been mentioned above.

Before you begin

1. Select or create a GCP project.

   GO TO THE MANAGE RESOURCES PAGE

2. Make sure that billing is enabled for your project.

   LEARN HOW TO ENABLE BILLING

3. Enable the Google BigQuery API.

   ENABLE THE API   ⟵

6) Select the project which you created in step 5.

Register your application for BigQuery API in Google Cloud Platform

Google Cloud Platform allows you to manage your application and monitor API usage.

Select a project where your application will be registered
You can use one project to manage all of your applications, or you can create a different project for each application.

w4111-project-2 ▾

[Continue]

Once, you have selected the project, the BigQuery API will get enabled.

7) Select "Go to the Create Service Account Key Page" button.
Follow the instructions, as provided in the image below.

4. Set up authentication:

    a. In the GCP Console, go to the **Create service account key** page.

        [GO TO THE CREATE SERVICE ACCOUNT KEY PAGE] ⟵

    b. From the **Service account** drop-down list, select **New service account**.

    c. In the **Service account name** field, enter a name .

    d. From the **Role** drop-down list, select **Project** > **Owner**.

☰ **Google Cloud Platform** ⠐ w4111-project-2 ▾   🔍

← Create service account key

Service account

New service account ▾

Service account name ⓘ   **Role** ⓘ

| mayanksaxena | | Owner ▾ |

Service account ID

| mayanksaxena   @w4111-project-2.iam.gs |

Selected
✓ Owner

Key type
Downloads a file that contains the private key. Store the file secure
be recovered if lost.
- ● JSON
  Recommended
- ○ P12
  For backward compatibility with code using the P12 format

Project ▸
App Engine ▸
BigQuery ▸
Billing ▸
Cloud IAP ▸
Cloud Security Scanner ▸
Cloud Trace ▸
Datastore ▸
Error Reporting ▸
IAM ▸
Logging ▸
Monitoring ▸
Organization Policy ▸
Reserve Partner ▸
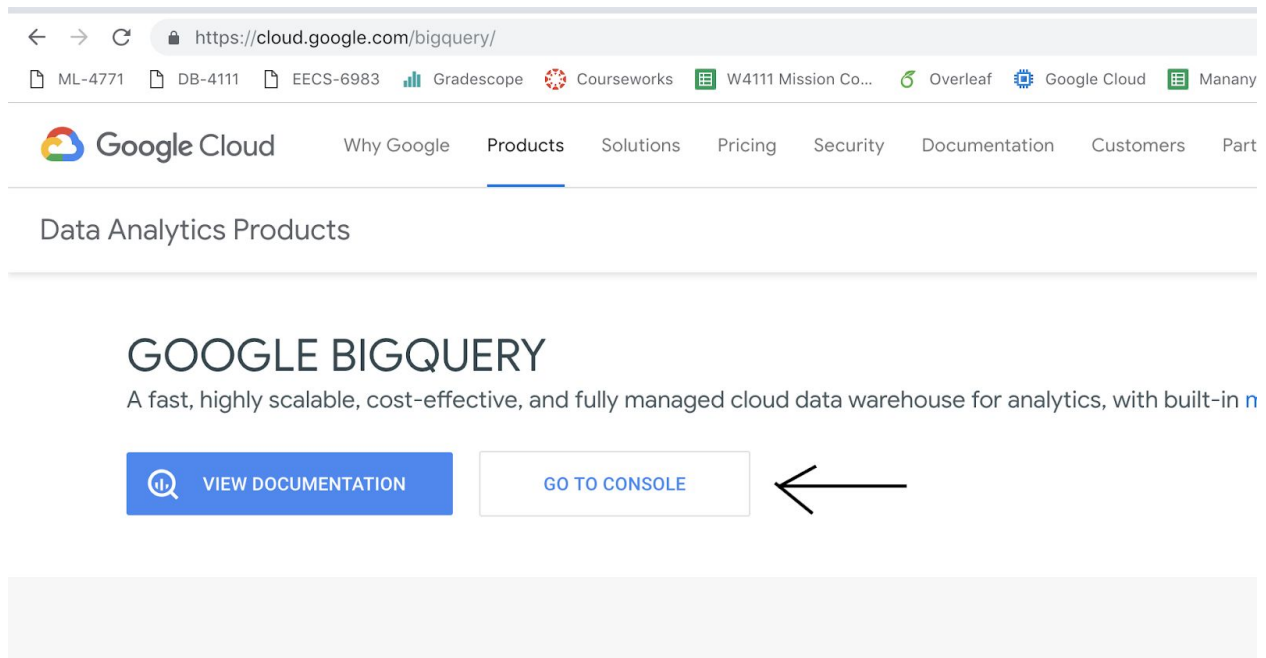
✓ Owner
Editor
Viewer
Browser

[Create] [Cancel]

Click on the "Create" button.
A .json file containing the required credentials will be downloaded automatically.
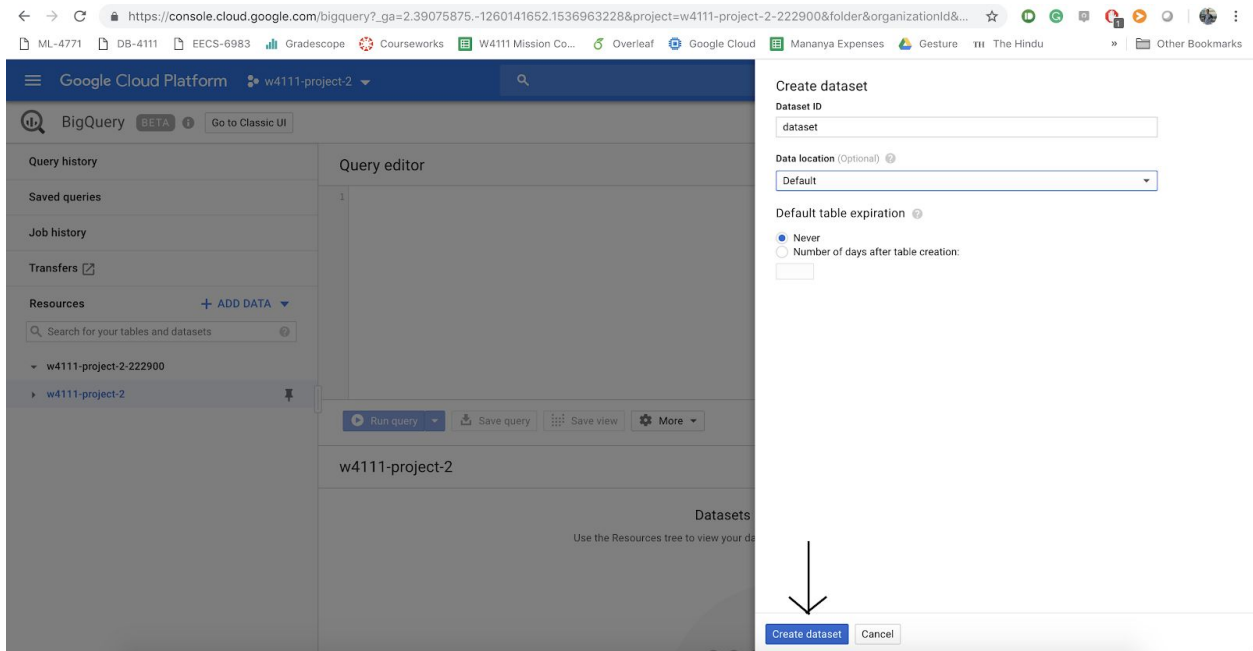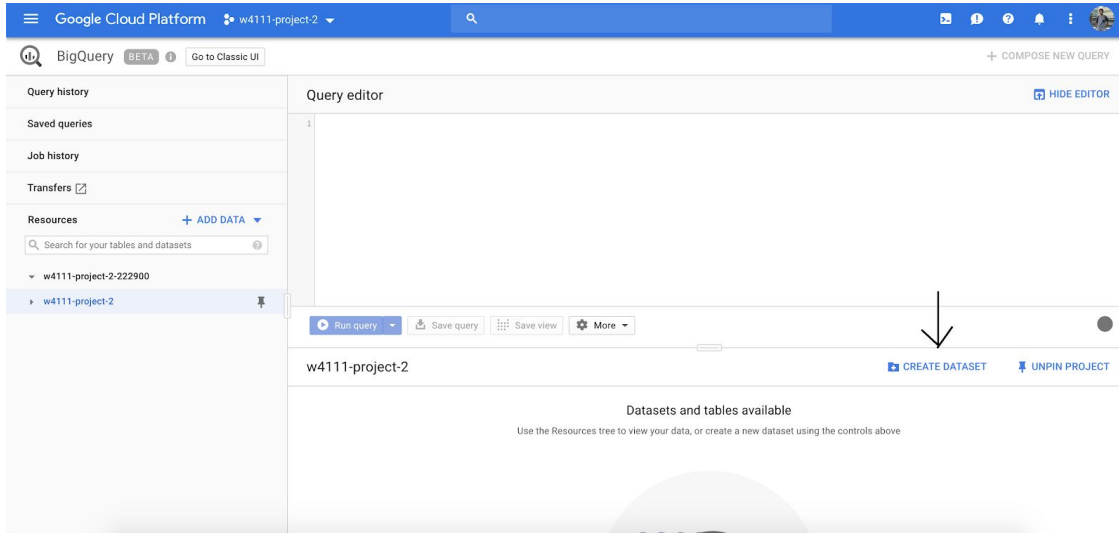
8) Open BigQuery console:

Click on the URL https://cloud.google.com/bigquery/ and choose the "Go To Console" button.
You can also follow the instructions at https://cloud.google.com/bigquery/docs/datasets to create your own dataset using the Python API.

9) Create a new dataset:

To create a new dataset click on the button below. Fill in the details and click on the create button.

10) Run graph.py

Now you can run the graph.py script by providing the path to the downloaded credentials file as a system argument.

If you're using the GCP instance to run your project, make sure you upload the credentials file on the instance, install the required libraries and use the graph.py as the starter code for your submission.