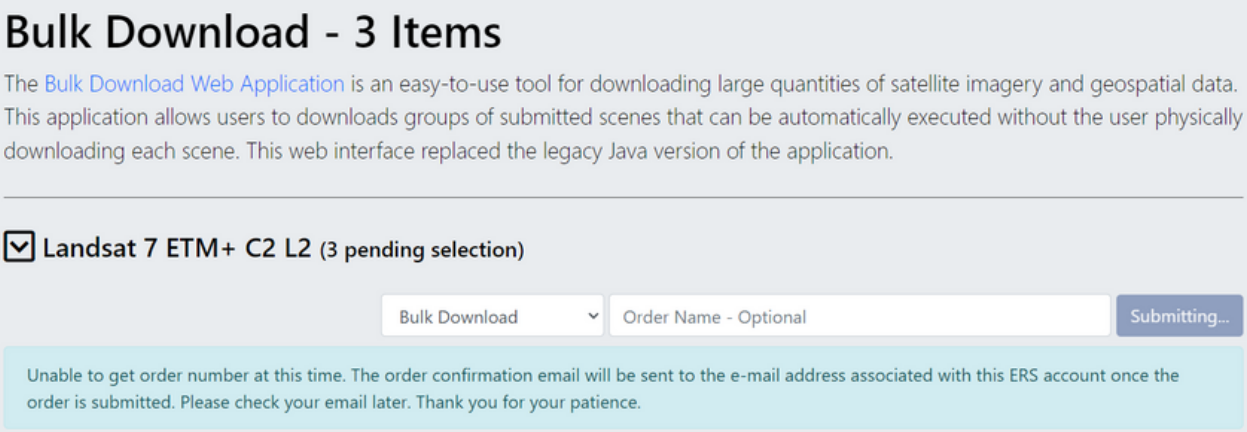
Assignment 2

Problem



Faced a problem while downloading data in bulk.

Explored other open source websites for the time being to get started with the task

```
var collection = ee.ImageCollection('COPERNICUS/S5P/OFFL/L3_CH4')
  .select('CH4_column_volume_mixing_ratio_dry_air')
  .filterDate('2019-06-01', '2019-07-16');

var band_viz = {
  min: 1750,
  max: 1900,
  palette: ['black', 'blue', 'purple', 'cyan', 'green', 'yellow', 'red']
};

Map.addLayer(collection.mean(), band_viz, 'S5P CH4');
Map.setCenter(0.0, 0.0, 2);
```

Found this on Earth engine data catalog

Idea:

- **Can do web scraping to get list of datasets.**
- **Then use web scraping again for extracting the API to access a specific dataset from this site.**

function for downloading data

API to access data

```
# Earth Engine collection and parameters
collection = ee.ImageCollection('COPERNICUS/S5P/NRTI/L3_CLOUD') \
  .select('cloud_fraction') \
  .filterDate('2019-7-13', '2023-07-13')
```

```
band_viz = {
  'min': 0,
  'max': 0.95,
  'palette': ['red', 'green', 'blue']
  }
```

Visualization parameter

```
# Download the image as a GeoTIFF
geotiff_path = os.path.join(output_dir, 'cloud_fraction.tif')
task = ee.batch.Export.image.toDrive(
  image=mean_image,
  description='CloudFraction',
  folder=output_dir,
  fileNamePrefix='cloud_fraction',
  scale=1000,
  region=mean_image.geometry().bounds().getInfo()['coordinates'],
  crs=mean_image.projection().crs().getInfo()  # Specify the desired CRS
)
task.start()
```

To download mean_image

```
# Convert the downloaded file to a GeoTIFF
tif_path = os.path.join(output_dir, 'cloud_fraction.tif')
gdal.Translate(tif_path, geotiff_path)
```

Convert ot GeoTIFF