# DataEng: Data Maintenance In-class Assignment

## A. Discussion Questions

***Response:***
We can use compression when we need to send a large amount of data over the network. Also we can do compression when the storage is limited. We can do encryption when we have some PII information or confidential information. We can reduce the data when there is a lot of similar data and when we would not lose much data when we reduce it. For example we have breadcrumb data for 5 seconds but if we reduce the data to 30 second breadcrumb data we would not lose much data.
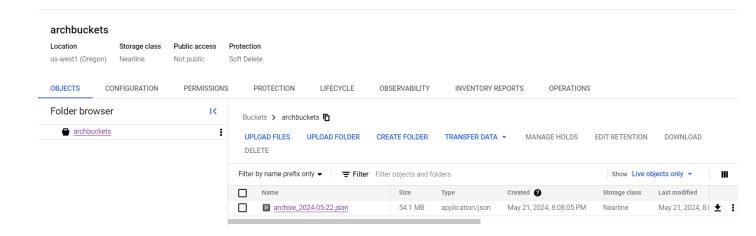
We can combine the transformations based on our requirements. For example, We can combine encryption and compression when we have limited space and need to store a file that has PII information. For the breadcrumb data we can reduce the data and then compress the data.

## C. Store Data to GCP Storage Bucket

**How much bucket space (in KiBs) does it take to store 1 day of breadcrumbs for 100 vehicles?**
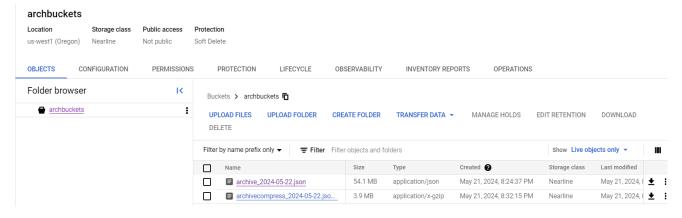
***Response:***
To store one days data for 100 vehicles it takes about 54.1 MB or 55362.4 KiB

## D. Compress

**How much bucket space (in KiBs) does it take to store the compressed data?**

***Response:***

To store one days compressed data for 100 vehicles it takes about 3.9 MB or 3808.59 KiB



## E. Encrypt

**How much bucket space (in KiBs) does it take to store the encrypted, compressed data?**

***Response:***

To store one days compressed and encrypted data for 100 vehicles it takes about 6.8 MB or 6640.62 KiB