In [1]:

```
from geopy.geocoders import GoogleV3
import pandas as pd

# Load the dataset
df = pd.read_csv('NYC_Property_Sales_Data.csv')

# Define your Google Maps Geocoding API key
api_key = 'AIzaSyCJhORo-D11w1XYyQUhuwtiLxGpKBa2rIw'

# Initialize the Google Maps geocoder
geolocator = GoogleV3(api_key=api_key)

# Function to geocode addresses and return latitude and longitude coordina
def geocode_address(address):
    location = geolocator.geocode(address)
    if location:
        return location.latitude, location.longitude
    else:
        return None, None

# Geocode addresses and fill missing latitude and longitude values
for index, row in df.iterrows():
    if pd.isnull(row['Latitude']) or pd.isnull(row['Longitude']):
        address = row['ADDRESS']
        latitude, longitude = geocode_address(address)
        df.at[index, 'Latitude'] = latitude
        df.at[index, 'Longitude'] = longitude

# Save the updated DataFrame
df.to_csv('NYC_Property_Sales_Data_Geocoded.csv', index=False)

```

```
C:\Users\prabh\AppData\Local\Temp\ipykernel_18016\2294164941.py:5: DtypeWarni
ng: Columns (0,28,30) have mixed types. Specify dtype option on import or set
low_memory=False.
  df = pd.read_csv('NYC_Property_Sales_Data.csv')
```

In [21]:

```
import pandas as pd

# Load the dataset
df = pd.read_csv('NYC_Property_Sales_Data_Geocoded.csv', low_memory=False)
```