## Programming Assignment: Linear Regression

Implement a linear regression predictor from scratch to predict the fire radiation power of various fires in Australia.

## Data Details:

* dev.csv - the validation set

## Data fields

* latitude - Center of 1km fire pixel but not necessarily the actual location of the fire as one or more fires can be
* longitude - Center of 1km fire pixel but not necessarily the actual location of the fire as one or more fires can be
* brightness - Channel 21/22 brightness temperature of the fire pixel measured in Kelvin.
* scan - The algorithm produces 1km fire pixels but MODIS pixels get bigger toward the edge of scan. Scan
* track - The algorithm produces 1km fire pixels but MODIS pixels get bigger toward the edge of scan. Scan
* acq\_date - Date of MODIS acquisition.
* acq\_time - Time of acquisition/overpass of the satellite (in UTC).
* satellite - A = Aqua and T = Terra.
* instrument - Constant value for MODIS.
* confidence -This value is based on a collection of intermediate algorithm quantities used in the detection process.
* version - Version identifies the collection (e.g. MODIS Collection 6) and source of data processing: Near
* bright\_t31 - Channel 31 brightness temperature of the fire pixel measured in Kelvin.
* daynight - D = Daytime, N = Nighttime
* frp - *(Target Variable)* Fire Radiative Power: Depicts the pixel-integrated fire radiative power in MW (megawatts)

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## Competition Timeline

Start Date: 3pm on 10th November 2021

End Date: End of Monday 15th November 2021.