Guidelines

From 00.00 to 23.59, each 30 seconds:
- Compute clock offsets and plot it
- Compute satellite positions in ORS (Orbital Reference System) and ITRF (X, Y, Z)
- Convert X(t), Y(t), Z(t) to phi(t), lambda(t), r(t)
- Plot the groundtrack
- Print on a text file the results

WORKFLOW

A) Create vector of time epochs from $t_0 = 0$ to $t_{end} = 23.59$ (converted in sec) with $\Delta t = 30$ sec
B) Compute clocks offset and plot it
C) Compute satellite positions in ITRF (X, Y, Z)
    1. Compute mean motion
    2. Initialize to zero matrices of sat_coord_ORS and sat_coord_ITRF with dimensions 3-by-n_epochs
    3. For each epoch (use a 'for' cycle) estimate:
        i. Mean anomaly
        ii. Eccentric anomaly (NOTE: create a function to estimate this parameter) NOTE: look at 'ecc_anomaly.m' guidelines
        iii. True anomaly
        iv. Satellite coordinates with respect to the focus
        v. Satellite coordinates in the ORS (Orbital Reference System)
        vi. Compute angle ω at epoch
        vii. ...angle i
        viii. ...angle Ω
        ix. Rotation matrices R_3_Ω, R_1_i, R_3_ω
        x. Satellite coordinates in ITRF
D) Convert ITRF satellite coordinates (X(t), Y(t), Z(t)) in geodetic coodinates (phi(t), la(t), h_ell(t)) using function 'cart2geo'
E) Plot the groundtrack
F) Print on a text file the results: Coordinates ORS - Coordinates ITRF - Coordinates phi, lambda, h