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def post_flight_data():
    import numpy as np

    #-----
    """ Open Post Flight Data Sheet csv file """
    f = open("postflightdata.csv","r")
    lines = f.readlines()
    f.close()

    """ Create an array with all the data """
    datalist = lines
    data = []
    for i in range(84):
        dataline = datalist[i]
        dataline = dataline.split(';')
        dataline = list(dataline)
        data.append(dataline)

    """ Remove the \n from the array """
    for j in range(84):
        for k in range(13):
            if '\n' in data[j][k]:
                data[j][k] = data[j][k][:-2]
            else:
                data[j][k] = data[j][k]
    data = np.array(data)

    #-----

    """ Stationary measurements CL-CD series 1 """

    # Pressure altitude (ft)
    hp = []
    hp1 = data[:,3]
    for i in range(27,33):
        hp.append(float(hp1[i]))

    # Indicated airspeed (kts)
    IAS = []
    IAS1 = data[:,4]
    for i in range(27,33):
        IAS.append(float(IAS1[i]))

    # Angle of attack (deg)
    alpha = []
    alpha1 = data[:,5]
    for i in range(27,33):
        alpha.append(float(alpha1[i]))

    # Fuel flow Left (lbs/hr)
    FF1 = []
    FF11 = data[:,6]
    for i in range(27,33):
        FF1.append(float(FF11[i]))

    # Fuel flow right (lbs/hr)
    FFr = []
    FFr1 = data[:,7]
    for i in range(27,33):
        FFr.append(float(FFr1[i]))

    # Fuel used (lbs)
    F_used = []
    F_used1 = data[:,8]
    for i in range(27,33):
        F_used.append(float(F_used1[i]))

    # True air temperature (C)
    TAT = []
    TAT1 = data[:,9]
    for i in range(27,33):
        TAT.append(float(TAT1[i]))

    #-----

    """ Variables """
    rho_0 = 1.225 # kg/m^3 (air density at sea level)
    g = 9.80665 # m/s^2 (gravitational constant)

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""" Masses """
BEM = 13600. # lbs (basic empty mass)
BFuel = float(data[17][3]) # lbs (block fuel)
# Payload (kg)
Payl = []
Payl1 = data[:,7]
for i in range(7,16):
    Payl.append(float(Payl1[i]))
Payload = sum(Payl)

""" Unit conversions """
BEM = BEM * 0.453592 # kg (basic empty mass)
BFuel = BFuel * 0.453592 # kg (block fuel)
# Fuel used (kg)
for i in range(len(F_used)):
    F_used[i] = F_used[i] * 0.453592

""" Ramp mass """
M_r = BEM + BFuel + Payload # kg (ramp mass)

""" Total mass at point in time """
# kg (total mass)
M_t = []
for i in range(len(F_used)):
    M_t1 = M_r - F_used[i]
    M_t.append(M_t1)

""" Total weight at point in time """
# N (total weight)
W_t = []
for i in range(len(M_t)):
    W_t1 = M_t[i] * g
    W_t.append(W_t1)

return hp, IAS, alpha, FFl, FFr, F_used, TAT, Payl, Payload, BEM, BFuel, M_r, M_t, W_t

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