BMI Calculator

Assignment Files:

json_input.json – This file contains the source JSON input

bmi_calculator.py – Python script file for BMI calculation

bmi_calculator_result_all.csv – Output result of BMI Calculator

bmi_calculator_result_overweight.csv – Output result of overweight people

bmi_calculator_unit_test.py – Python unit test script file

bmi_calculator_design_document.pdf – Detailed document related to BMI calculator

Technical design description:

I tried to implement the BMI calculator using the python standard libraries. Here Pandas is only used to display the result in tabular form, but all other logic is implemented using standard libraries.

Class: BodyMassIndex – This class is basically containing the attribute related to body mass index.

Function: read_input – This function is responsible to load the data from the JSON input file and produce an output as list of dictionaries.

Function: calculate_bmi – This function does the BMI calculation i.e., it takes the dictionary input record and after calculation the BMI it will produce another dictionary as combination of source and BMI data.

Function: is_valid_record – This method is used to check the input valid record.

Function: processing_for_bmi_calculation – This method is responsible to separate the valid and invalid records as well as proceed to get the BMI details for valid records.

Function: get_over_weight_people – This function filters the record or people those who are coming under overweight category. Basically, I have taken 'Over Weight', 'Moderately obese', 'Severly obese' and 'Very Severly obese' category as overweight category.

Function: produce_result – This function saves the result in the CSV file, so that we can verify the result later.