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GMT-225

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Lesson: GMT-225 Reference Coordinate Systems

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Assignment: 1

My goal in this assignment is to write functions that convert the entered UTC (year, month, day, hour, minute, second) time zone into TAI, GPST, BDT and TT time units.

First of all, I wrote the input lines for the input values I would enter. Then, I determined the time interval for which the leap second would be with the if command. Secondly, I determined the desired validations with the help of if else. Thirdly, I wrote the date of the leap second corrections after 1972 (year/month/day) in a list and then took the size of the list as the total leap second correction. Afterwards, I wrote the first function. The first function is the function that converts the dates we entered as UTC to Julian Date. I wrote the equations using the relationship between the desired time scales (except TT) and UTC, and the relationship between TT and TAI. Finally, I printed the function lines that convert the Julian Date times to UTC time as year, month, day, second.

convert_to_JD(UTC): This function converts UTC time to Julian Date.

converttime(self): This function converts Julian Date to year, month, day and second format.