

ECE 445 (ML for ENGG): Mini Jupyter Exercise #1

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Consider the following *Gross Domestic Product (GDP)* data for the US in trillions of UD dollars (real US GDP, i.e., not nominal GDP):

Year	1930	1940	1950	1960	1970	1980	1990	2000	2010
GDP	1.015	1.33	2.29	3.26	4.951	6.759	9.366	13.131	15.599

1. Plot the GDP as a function of the year in Jupyter as shown below:

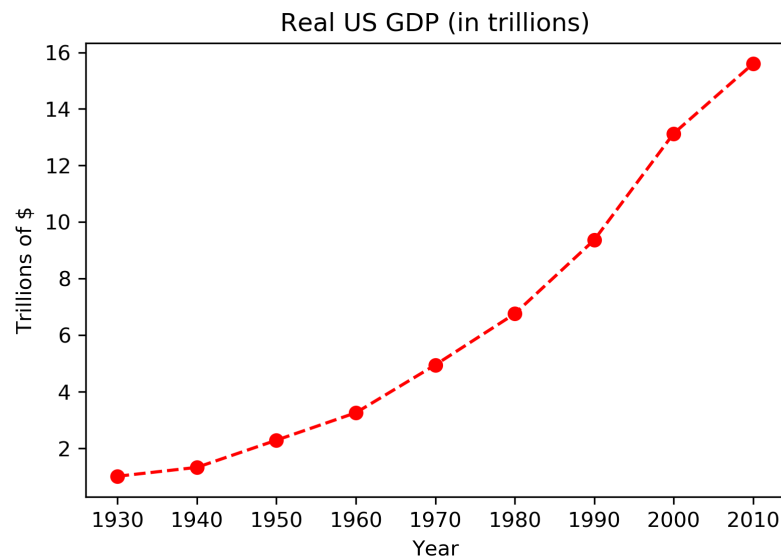


Figure 1: Real US GDP as a function of the year.

2. Based on the obtained plot, what is a possible mathematical relationship between GDP and Year? Carefully argue this point and see if you can learn to discuss this point within a markdown cell of Jupyter using mathematical notation.
3. Plot another curve that follows the mathematical relationship you have derived/argued between GDP and Year. This plot should be overlaid on top of the previous plot obtained using the actual GDP data.