

Title: A Problem with Presidents

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Summary:

The given data is about president's birth date and death date. There are certain entries which do not have death date is empty. For internal reference, I have entered today's date as the death date for internal working. It has enabled me to calculate the other variables like lived_days, lived_months, lived_years without any issue. For Calculating and analyzing the data, I have used Pandas which gives us the ability to manipulate and analyze a Data Frame and matplotlib to show the tables and graphs.

Output:

The details for top 10 president in the order of number of days lived in an ascending order is given below.

Following are the details of the top 10 president from shortest lived to longest lived					
	PRESIDENT	lived_days	lived_years	lived_months	year_of_birth
33	John F. Kennedy	16978	46	565	1917
19	James A. Garfield	18202	49	606	1831
10	James K. Polk	19583	53	652	1795
15	Abraham Lincoln	20516	56	683	1809
20	Chester Arthur	20863	57	695	1829
27	Warren G. Harding	21091	57	703	1865
23	William McKinley	21412	58	713	1843
24	Theodore Roosevelt	21985	60	732	1858
28	Calvin Coolidge	22099	60	736	1872
30	Franklin Roosevelt	23082	63	769	1882

The details for top 10 president in the order of number of days lived in descending order is given below.

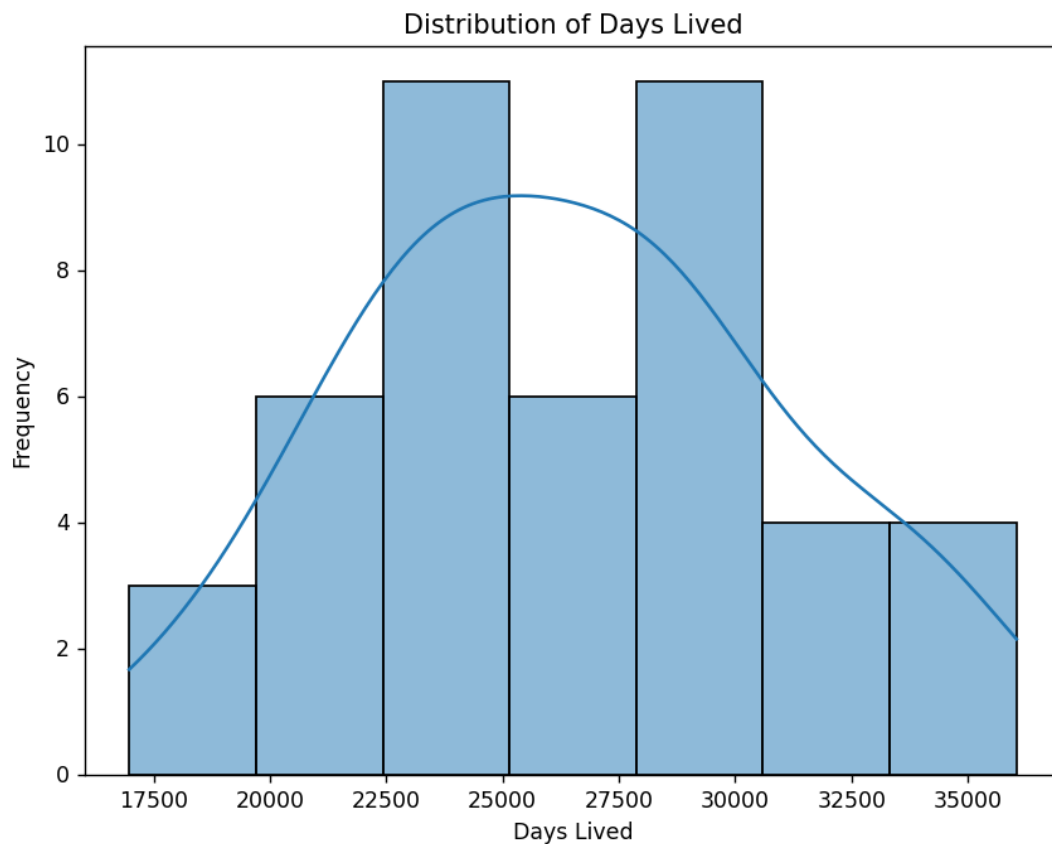
Following are the details of the top 10 president from longest lived to shortest lived					
	PRESIDENT	lived_days	lived_years	lived_months	year_of_birth
39	George Bush	34504	94	1150	1924
36	Gerald Ford	34133	93	1137	1913
38	Ronald Reagan	34088	93	1136	1911
1	John Adams	33119	90	1103	1735
29	Herbert Hoover	32943	90	1098	1874
31	Harry S. Truman	32373	88	1079	1884
3	James Madison	31150	85	1038	1751
2	Thomas Jefferson	30397	83	1013	1743
35	Richard Nixon	29688	81	989	1913
5	John Quincy Adams	29446	80	981	1767

The metrics of number of days lived by the president is below. Since each president's number of days lived is unique. The mode contains all the number of days lived by each president. Also, it can be observed that there is a huge gap between the maximum and minimum number of days lived. The maximum is more than twice the minimum value of number of days lived.

Metrics of number of days for the president have lived		
	Metric	Value
0	Mean	26097.2
1	Median	25673
2	Mode	[16978, 18202, 19583, 20516, 20863, 21091, 214...
3	Maximum Value	34504
4	Minimum Value	16978
5	Standard Deviation	4596.07

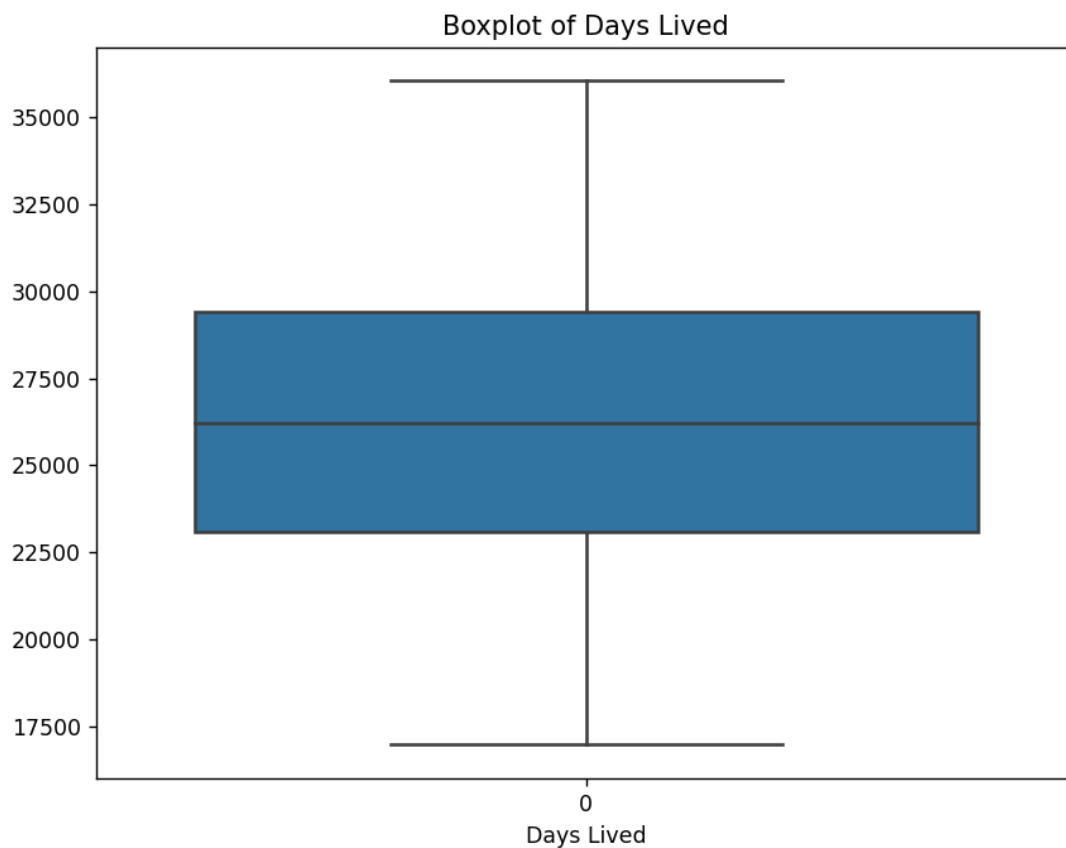
The following diagram depicts histogram distribution of the number of days lived by the presidents.

Figure 1



The following is the boxplot of the number of days lived. Boxplot shows the information of all the quartiles. It shows distribution of data based on a five number summary ("minimum", first quartile [Q1], median, third quartile [Q3], and "maximum").

Figure 1



Conclusion:

There are many aggregations that can be observed from the above graphs. The most amusing observation is that there is so much diversity in a data with approximately 45 entries. The maximum age that the president has achieved is 98 which is of Jimmy Carter. While the minimum age is 46 which is John Kennedy. Using histogram it can be seen that the mean of number of days lived is near the range having maximum frequency.