

Assessment of US President Lifespans

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Introduction

The intent of this report is to determine how the lifespans of U.S. presidents differ. The data was processed using a given CSV file in R and notably, the presidents with the longest lives, currently, are Jimmy Carter at 35443 days (97 yrs.), George Bush at 34504 days (94 yrs.), and Gerald Ford at 34133 days (93 yrs.). Whereas the shortest living presidents were JFK at 16978 days (46 years), James Garfield at 18202 days (49 yrs.) and James Polk at 19583 days (53 yrs.). With a spread of about 18465 days (51 years).

Body

To calculate the lived days, months, and years, issues like leap years and living presidents had to be taken into account. For presidents still alive, age was calculated using the current date, and the R library `lubridate` and function `difftime` was utilized to handle the difference in dates for each variable.

Table 1: Top 10 Longest Lived Presidents

RANK	PRESIDENT	BIRTH.DATE	DEATH.DATE	YEARS	MONTHS	DAYS
1	Jimmy Carter	Oct 1, 1924		97	1164	35443
2	George Bush	June 12, 1924	Nov 30, 2018	94	1133	34504
3	Gerald Ford	July 14, 1913	Dec 26, 2006	93	1121	34133
4	Ronald Reagan	Feb 6, 1911	June 5, 2004	93	1119	34088
5	John Adams	Oct 30, 1735	July 4, 1826	90	1088	33119
6	Herbert Hoover	Aug 10, 1874	Oct 20, 1964	90	1082	32943
7	Harry S. Truman	May 8, 1884	Dec 26, 1972	88	1063	32373
8	James Madison	Mar 16, 1751	June 28, 1836	85	1023	31150
9	Thomas Jefferson	Apr 13, 1743	July 4, 1826	83	998	30397
10	Richard Nixon	Jan 9, 1913	Apr 22, 1994	81	975	29688

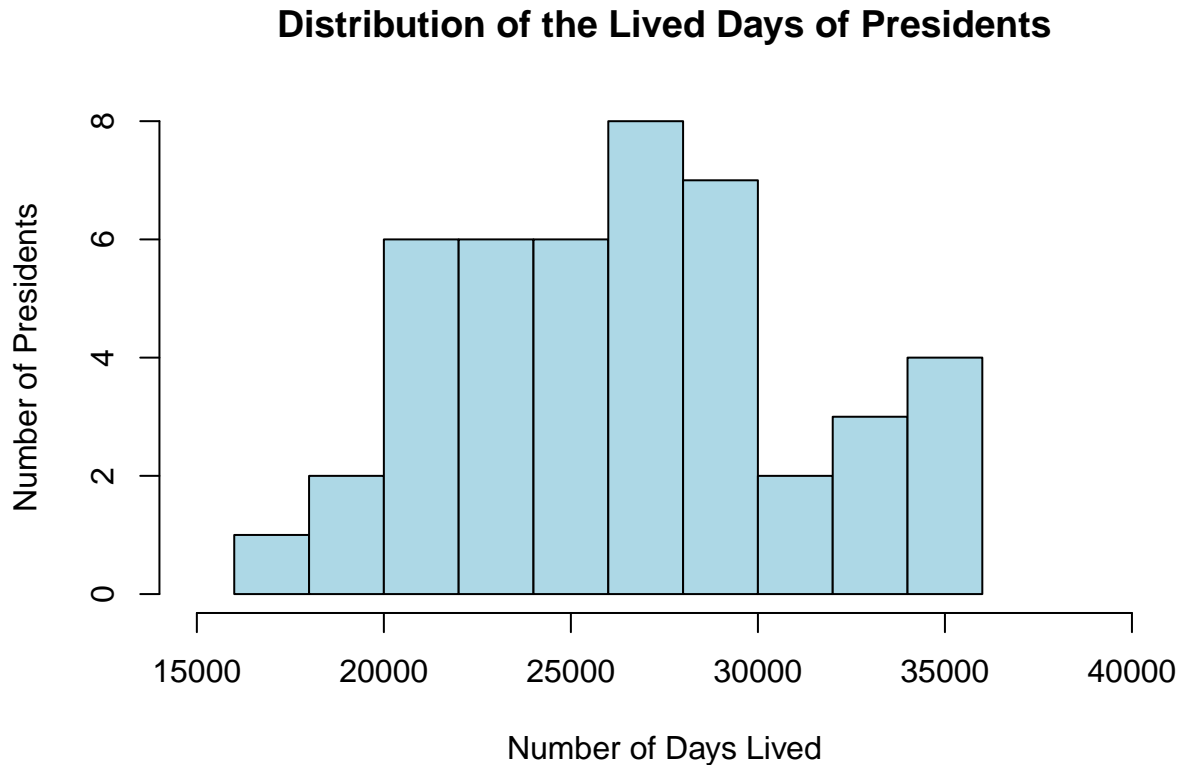
Table 2: Top 10 Shortest Lived Presidents

RANK	PRESIDENT	BIRTH.DATE	DEATH.DATE	YEARS	MONTHS	DAYS
1	John F. Kennedy	May 29, 1917	Nov 22, 1963	46	557	16978
2	James A. Garfield	Nov 19, 1831	Sep 19, 1881	49	598	18202
3	James K. Polk	Nov 2, 1795	June 15, 1849	53	643	19583
4	Abraham Lincoln	Feb 12, 1809	Apr 15, 1865	56	674	20516
5	Chester Arthur	Oct 5, 1829	Nov 18, 1886	57	685	20863
6	Warren G. Harding	Nov 2, 1865	Aug 2, 1923	57	692	21091
7	William McKinley	Jan 29, 1843	Sep 14, 1901	58	703	21412
8	Theodore Roosevelt	Oct 27, 1858	Jan 6, 1919	60	722	21985
9	Barack Obama	Aug 4, 1961		60	722	21987
10	Calvin Coolidge	July 4, 1872	Jan 5, 1933	60	726	22099

Table 3: Summary Statistics of the Presidents' Lived Days

Min.	Mean	Weighted.Mean	Max	Median	Mode	Standard.Deviation
16978	26366.71	26366.71	35443	26227	24767	4564.904

The tables above highlight the spread between presidential ages, with an average centered 24000 - 26000 days (~65 - 70 years) lived and a difference of 18465 days (51 years) between the two ends. Looking at the table, the majority of ages are close to each other, with the tail ends pulling out the distribution, as seen in the graph below:



Similar to the tables above, the histogram gives an almost normal distribution, transitioning into an almost bi-modal distribution as the tail end on the right side rises.

Conclusion

Through analysis of the data, one conclusion of the data is that while although the data is seemingly distributed normally at a mean of 26366.71 days lived, the tail ends pull the data outwards, creating larger deviation in the data set. And significantly, Jimmy Carter is the longest lived president at 35443 days (97 years) while John F. Kennedy is the shortest lived at 16978 (46 years). It remains to be seen if there will be another rise in the number of days lived, considering how modern medicine affects the average lifespan and if the distribution will become bi-modal as later term presidents end up living longer. A plot of the lived days against the date of birth would provide insight into how presidential lifespan changes overtime.