|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | age | yrs in senate | party | favorable votes | INCOME $000 |  |
| 1 | 50 | 10 | R | Y | 250 |  |
| 2 | 43 | 1 | R | Y | 250 |  |
| 3 | 88 | 35 | R | Y | 1000 |  |
| 4 | 70 | 30 | R | N | 300 |  |
| 5 | 37 | 4 | R | Y | 300 |  |
| 6 | 40 | 7 | R | Y | 250 |  |
| 7 | 41 | 2 | R | N | 250 |  |
| 8 | 67 | 28 | R | N | 700 |  |
| 9 | 63 | 30 | I | Y | 1700 |  |
| 10 | 52 | 20 | I | N | 250 |  |
| 11 | 55 | 12 | I | Y | 250 |  |
| 12 | 86 | 34 | D | N | 275 |  |
| 13 | 50 | 1 | D | N | 300 |  |
| 14 | 37 | 1 | D | N | 250 |  |
| 15 | 40 | 4 | D | Y | 250 |  |
| 16 | 41 | 6 | D | Y | 250 |  |
| 17 | 67 | 12 | D | N | 875 |  |
| 18 | 63 | 20 | D | N | 500 |  |
| 19 | 52 | 10 | D | N | 290 |  |
| 20 | 38 | 2 | D | N | 450 |  |
| 21 | 43 | 4 | D | N | 250 |  |
| 22 | 76 | 24 | D | N | 250 |  |
| 23 | 55 | 10 | D | N | 250 |  |
| 24 | 46 | 12 | D | Y | 290 |  |
| 25 | 30 | 1 | D | Y | 1100 |  |
| 26 | 60 | 26 | D | Y | 280 |  |
| 27 | 55 | 12 | D | Y | 1200 |  |
| 28 | 56 | 13 | D | N | 600 |  |
| 29 | 80 | 40 | D | Y | 725 |  |
| 30 | 56 | 13 | D | N | 250 |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

The managers with whom you met for coffee have asked you to prepare a report dealing with members of Congress. They asked you to research a random sample of 30 of the 100 senators about the following data groups:

* Age
* Years in the Senate
* Party affiliation
* Which ones vote favorably on legislation affecting your industry ("Y" or "YES") versus those voting unfavorably ("N" or "NO")
* The income of each senator

Download the [DATA.](https://campus.ctuonline.edu/courses/MGM330/Assignment_Assets/1_a.xlsx)

The managers also want you to answer the following information using various Excel statistical tools:

* What are the mean age, income, and number of years in the Senate?
* What is the standard deviation of the income, and how would you interpret this?
* How many senators make up the group with the least number of years in the Senate?
* Voting preferences and party affiliation are not data that can be averaged because they are not numeric.
  + What is this kind of data called, and how could it be grouped for statistical analysis methods?
* Is picking 30 senators randomly a good way to reach conclusions?
  + Must all 100 be assessed?
  + Why or why not?