

Chapter 2 / **Example 2**

Measures of central tendency

The number of days of sunshine in Helsinki in January was recorded for a period of 35 years and the data is given in the frequency table:

- State the modal number of days of sunshine in January in Helsinki for the period.
- Calculate the mean number of days of sunshine in January in Helsinki for the period.
- Determine the median number of days of sunshine in January in Helsinki for the period.
- State a reason why the mode might not be the best average to use to be a fair representation of the number of days of sunshine in Helsinki.
- Comment on how a “day of sunshine” might be defined.

Number of days of sunshine	Number of years
3	1
4	2
5	1
6	2
7	7
8	5
9	9
10	8

Press **MENU** 2 **STRG** to display the List Editor screen.

Type 3, 4, 5, ... 10 in the first column.

Press **EXE** after each number to move to the next cell.

Note: If the list contains other numbers, you can clear it by pressing **F4** DEL-ALL.

	List 1	List 2	List 3	List 4
SUB				
1	3			
2	4			
3	5			
4	6			
				6

Press **▶** to move to the next column.

Enter the frequencies of each of the ages in the second column.

	List 1	List 2	List 3	List 4
SUB				
1	3	1		
2	4	2		
3	5	1		
4	6	2		
				2

To calculate an estimate of the mean of the ages represented in the table.

Press **F2** CALC.

Press **F6** SET.

Change 1Var Freq to List2 by pressing **F2** LIST and typing 2.

Press **EXIT**.

1Var XList	:List1
1Var Freq	:List2
2Var XList	:List1
2Var YList	:List2
2Var Freq	:1
1	LIST


Press **F1** 1-VAR.

The results show that the estimate of the mean (\bar{x}) is 7.94. So, the mean number of days of sunshine is 7.94 days.

1-Variable	
\bar{x}	=7.94285714
Σx	=278
Σx^2	=2330
σx	=1.86613209
sx	=1.89337633
n	=35

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Scroll down using .

The table of statistics shows that the median is 8.
So, the median number of days of sunshine is 8 days.

1-Variable

n = 35
minX = 3
Q1 = 7
Med = 8
Q3 = 9
maxX = 10



Further scrolling reveals yet more statistics.

The table of statistics shows that there is one mode which is 9
and the frequency is 9 as well.

1-Variable

Med = 8
Q3 = 9
maxX = 10
Mod = 9
Mod : n = 1
Mod : F = 9



Because there are 18 days with less sunshine than the mode
but only 8 with more sunshine than the mode.

In January, there are 6 – 8 hours of daylight each day. A sunny
day could be one where about half the day, say 3 hours, is
sunny.