

Box and Whisker Plot

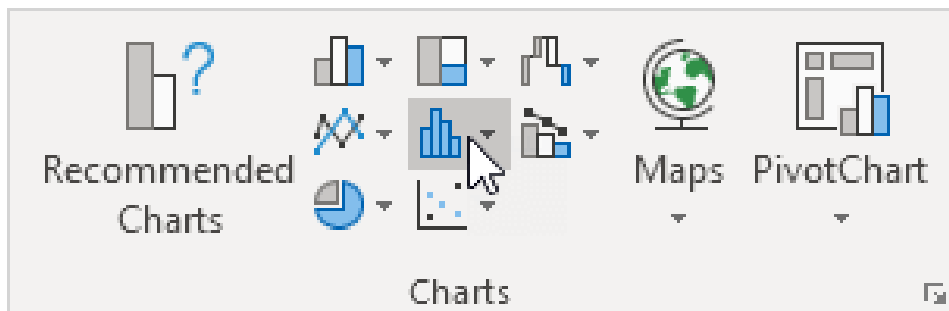
This example teaches you how to create a box and whisker plot in Excel. A box and whisker plot shows the minimum value, first **quartile**, median, third quartile, and maximum value of a data set.

Simple Box and Whisker Plot

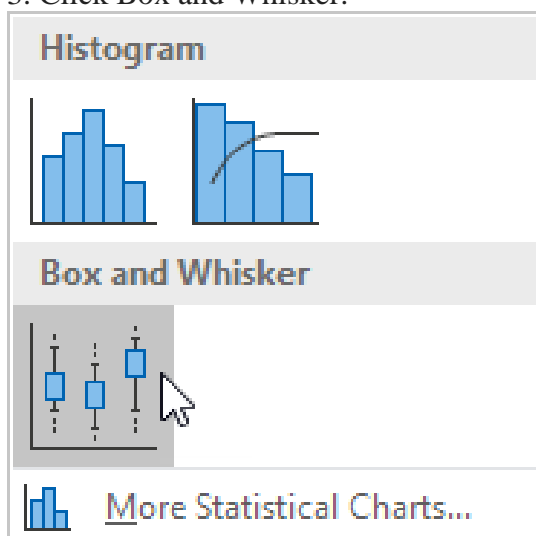
1. For example, select the range A1:A7.

| | A | B | C | D | E | F | G | H | I |
|---|----|---|---|---|---|---|---|---|---|
| 1 | 2 | | | | | | | | |
| 2 | 4 | | | | | | | | |
| 3 | 5 | | | | | | | | |
| 4 | 8 | | | | | | | | |
| 5 | 10 | | | | | | | | |
| 6 | 12 | | | | | | | | |
| 7 | 15 | | | | | | | | |
| 8 | | | | | | | | | |

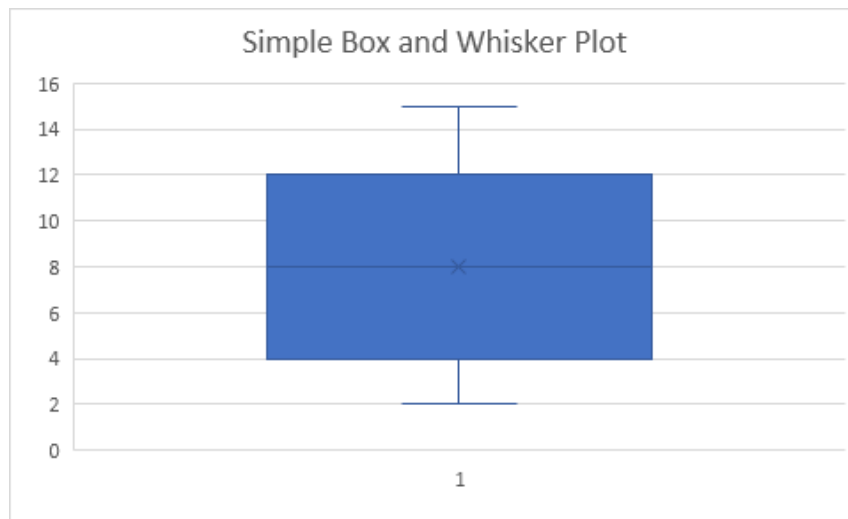
2. On the Insert tab, in the Charts group, click the Statistic Chart symbol.



3. Click Box and Whisker.



Result:



Find min, max, Q1, Q2 and Q3 using Excel

The scores of 15 students in a mathematics test are as follows:

37 60 24 55 81 67 62 82
95 32 53 80 77 91 88

Step 1 Enter all data in Excel software program (as shown in Col A)

Step 2: Rearrange the data in ascending order.

Select data from A1 to A15, click at **Data Menu** and click at ↓

You shall get data in ascending order as shown in Col C.

Step 3: Find the Q1 by using the QUARTILE function: =QUARTILE.EXC (C2:C15,1)

- move cursor to column E1

| | A | B | C | D | E | F |
|----|----|---|----|---|------------------------|---|
| 1 | 37 | | 24 | | 54 | |
| 2 | 95 | | 32 | | =QUARTILE(| |
| 3 | 24 | | 37 | | QUARTILE(array, quart) | |
| 4 | 32 | | 53 | | | |
| 5 | 53 | | 55 | | | |
| 6 | 55 | | 60 | | | |
| 7 | 60 | | 62 | | | |
| 8 | 62 | | 67 | | | |
| 9 | 67 | | 77 | | | |
| 10 | 77 | | 80 | | | |
| 11 | 80 | | 81 | | | |
| 12 | 81 | | 82 | | | |
| 13 | 82 | | 88 | | | |
| 14 | 88 | | 91 | | | |
| 15 | 91 | | 95 | | | |
| 16 | | | | | | |
| 17 | | | | | | |

- Type: =QUARTILE(
- move cursor to C1 and drag until col C15
- Type: =QUARTILE(C1,C15,1)
- Click Enter.

| | A | B | C | D | E | F |
|----|----|---|----|-----------------------|---------------------|---|
| 1 | 37 | | 24 | Quartile 1 Value (Q1) | 54 | |
| 2 | 95 | | 32 | Quartile 2 Value (Q2) | 67 | |
| 3 | 24 | | 37 | Quartile 3 Value (Q3) | =QUARTILE(C1:C15,3) | |
| 4 | 32 | | 53 | | | |
| 5 | 53 | | 55 | | | |
| 6 | 55 | | 60 | | | |
| 7 | 60 | | 62 | | | |
| 8 | 62 | | 67 | | | |
| 9 | 67 | | 77 | | | |
| 10 | 77 | | 80 | | | |
| 11 | 80 | | 81 | | | |
| 12 | 81 | | 82 | | | |
| 13 | 82 | | 88 | | | |
| 14 | 88 | | 91 | | | |
| 15 | 91 | | 95 | | | |
| 16 | | | | | | |
| 17 | | | | | | |

- Quartile Q2:
- Type: =QUARTILE(C1,C15,2)
- Quartile Q3:
- Type: =QUARTILE(C1,C15,3)

| Clipboard | | Font | | Alignment | |
|-----------|----|------|----|-----------------------|--------------|
| E6 | | | | | |
| | | | | | |
| | A | B | C | D | E |
| 1 | 37 | | 24 | Quartile 1 Value (Q1) | 54 |
| 2 | 95 | | 32 | Quartile 2 Value (Q2) | 67 |
| 3 | 24 | | 37 | Quartile 3 Value (Q3) | 81.5 |
| 4 | 32 | | 53 | | |
| 5 | 53 | | 55 | Minimum Value | 24 |
| 6 | 55 | | 60 | Maximum Value | =MAX(C1:C15) |
| 7 | 60 | | 62 | | |
| 8 | 62 | | 67 | | |
| 9 | 67 | | 77 | | |
| 10 | 77 | | 80 | | |
| 11 | 80 | | 81 | | |
| 12 | 81 | | 82 | | |
| 13 | 82 | | 88 | | |
| 14 | 88 | | 91 | | |
| 15 | 91 | | 95 | | |
| 16 | | | | | |
| 17 | | | | | |