Why aren't you using this Excel function?
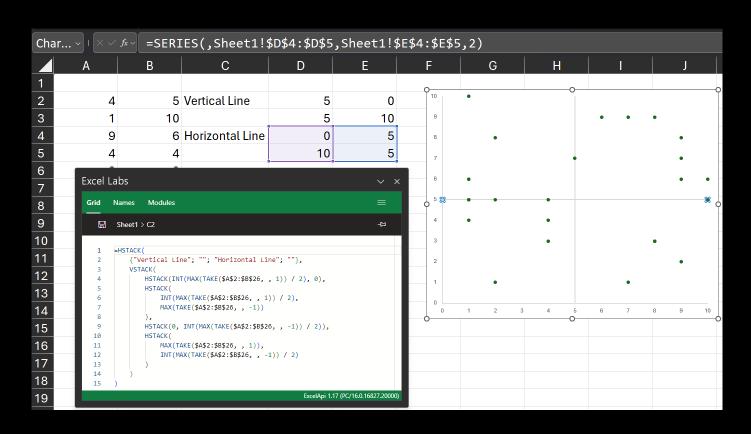
(it's been 2 years)

Owen Price
https://www.linkedin.com/in/owenhprice ← follow/connect
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This formula calculates the coordinates of cross-hairs for a scatterplot

```
=HSTACK(
    {"Vertical Line"; ""; "Horizontal Line"; ""},
    VSTACK(
        HSTACK(INT(MAX(TAKE($A$2:$B$26, , 1)) / 2), 0),
        HSTACK(
            INT(MAX(TAKE($A$2:$B$26, , 1)) / 2),
            MAX(TAKE($A$2:$B$26, , -1))
        ),
        HSTACK(0, INT(MAX(TAKE($A$2:$B$26, , -1)) / 2)),
        HSTACK(
            MAX(TAKE($A$2:$B$26, , 1)),
            INT(MAX(TAKE($A$2:$B$26, , -1)) / 2)
        )
    )
)
```

See?

What if you need to change the data location?

```
=HSTACK(
    {"Vertical Line"; ""; "Horizontal Line"; ""},
    VSTACK(
        HSTACK(INT(MAX(TAKE($A$2:$B$26, , 1)) / 2), 0),
        HSTACK(
            INT(MAX(TAKE($A$2:$B$26, , 1)) / 2),
            MAX(TAKE($A$2:$B$26, , -1))
        ),
        HSTACK(0, INT(MAX(TAKE($A$2:$B$26, , -1)) / 2)),
        HSTACK(
            MAX(TAKE($A$2:$B$26, , 1)),
            INT(MAX(TAKE($A$2:$B$26, , -1)) / 2)
        )
    )
)
```

**You'd have to change
the range in 6 places!**

The same calculations are being performed over and over again

```
=HSTACK(
    {"Vertical Line"; ""; "Horizontal Line"; ""},
    VSTACK(
        HSTACK(INT(MAX(TAKE($A$2:$B$26, , 1)) / 2), 0),
        HSTACK(
            INT(MAX(TAKE($A$2:$B$26, , 1)) / 2),
            MAX(TAKE($A$2:$B$26, , -1))
        ),
        HSTACK(0, INT(MAX(TAKE($A$2:$B$26, , -1)) / 2)),
        HSTACK(
            MAX(TAKE($A$2:$B$26, , 1)),
            INT(MAX(TAKE($A$2:$B$26, , -1)) / 2)
        )
    )
)
```

Here's the same formula using LET

```
=LET(
    seriesData, $A$2:$B$26,
    x, TAKE(seriesData, , 1),
    y, TAKE(seriesData, , -1),
    xMax, MAX(x),
    yMax, MAX(y),
    xMid, INT(xMax / 2),
    yMid, INT(yMax / 2),
    H, LAMBDA(one, two, HSTACK(one, two)),
    H(
        {"Vertical Line"; ""; "Horizontal Line"; ""},
        VSTACK(
            H(xMid, 0),
            H(xMid, yMax),
            H(0, yMid),
            H(xMax, yMid))))
```

Data range appears once only

Calculations are saved as names

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Each variable is calculated once and referenced from other calculations

```
=LET(
    seriesData, $A$2:$B$26,
    x, TAKE(seriesData, , 1),
    y, TAKE(seriesData, , -1),
    xMax, MAX(x),
    yMax, MAX(y),
    xMid, INT(xMax / 2),
    yMid, INT(yMax / 2),
    H, LAMBDA(one, two, HSTACK(one, two)),
    H(
        {"Vertical Line"; ""; "Horizontal Line"; ""},
        VSTACK(
            H(xMid, 0),
            H(xMid, yMax),
            H(0, yMid),
            H(xMax, yMid))))
```

The MAX of column 1 of seriesData is calculated once and used in two places directly and, since it's part of xMid, it's used indirectly in two other places

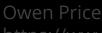# We can even create aliases for functions

Because the formula uses HSTACK five times, it's aliased with a LAMBDA called H

```
=LET(
    seriesData, $A$2:$B$26,
    x, TAKE(seriesData, , 1),
    y, TAKE(seriesData, , -1),
    xMax, MAX(x),
    yMax, MAX(y),
    xMid, INT(xMax / 2),
    yMid, INT(yMax / 2),
    H, LAMBDA(one, two, HSTACK(one, two)),
    H(

        {"Vertical Line"; ""; "Horizontal Li
        VSTACK(
            H(xMid, 0),
            H(xMid, yMax),
            H(0, yMid),
            H(xMax, yMid))))
```

So tell me, why aren't *you* using LET yet?

Owen Price
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