Microsoft Excel

BY

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Seven Basic Excel Formulas For Your Workflow

- 1. SUM

The SUM function is the first must-know formula in Excel. It usually aggregates values from a selection of columns or rows from your selected range. =SUM(number1, [number2], …)

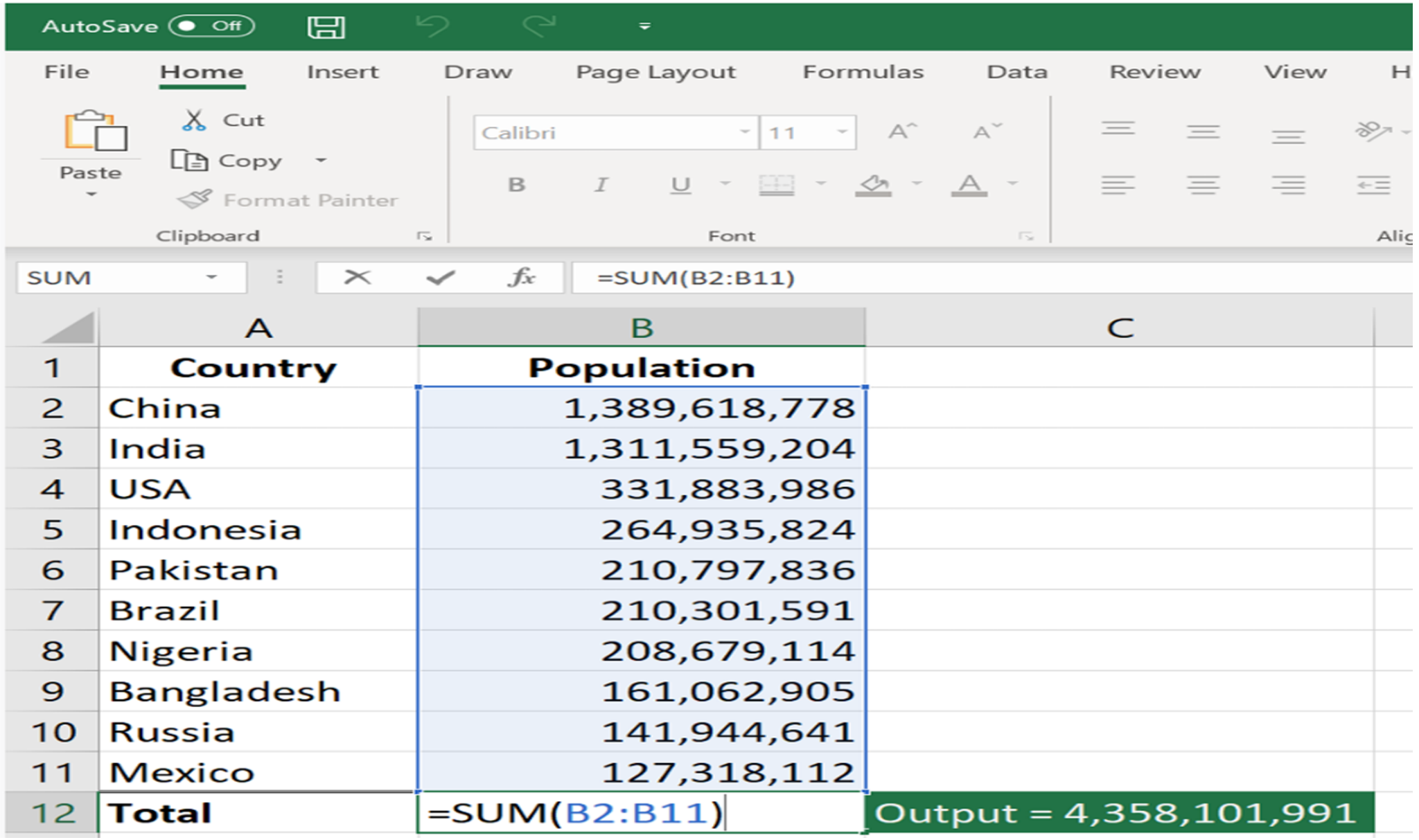
Example:

=SUM(B2:G2) – A simple selection that sums the values of a row.

=SUM(A2:A8) – A simple selection that sums the values of a column.

=SUM(A2:A7, A9, A12:A15) – A sophisticated collection that sums values from range A2 to A7, skips A8, adds A9, jumps A10 and A11, then finally adds from A12 to A15.

=SUM(A2:A8)/20 – Shows you can also turn your function into a formula.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SUM
=SUM(B2:B11)
A B C
1 Country Population
2 China 1,389,618,778
3 India 1,311,559,204
4 USA 331,883,986
5 Indonesia 264,935,824
6 Pakistan 210,797,836
7 Brazil 210,301,591
8 Nigeria 208,679,114
9 Bangladesh 161,062,905
10 Russia 141,944,641
11 Mexico 127,318,112
12 Total =SUM(B2:B11)
Output = 4,358,101,991

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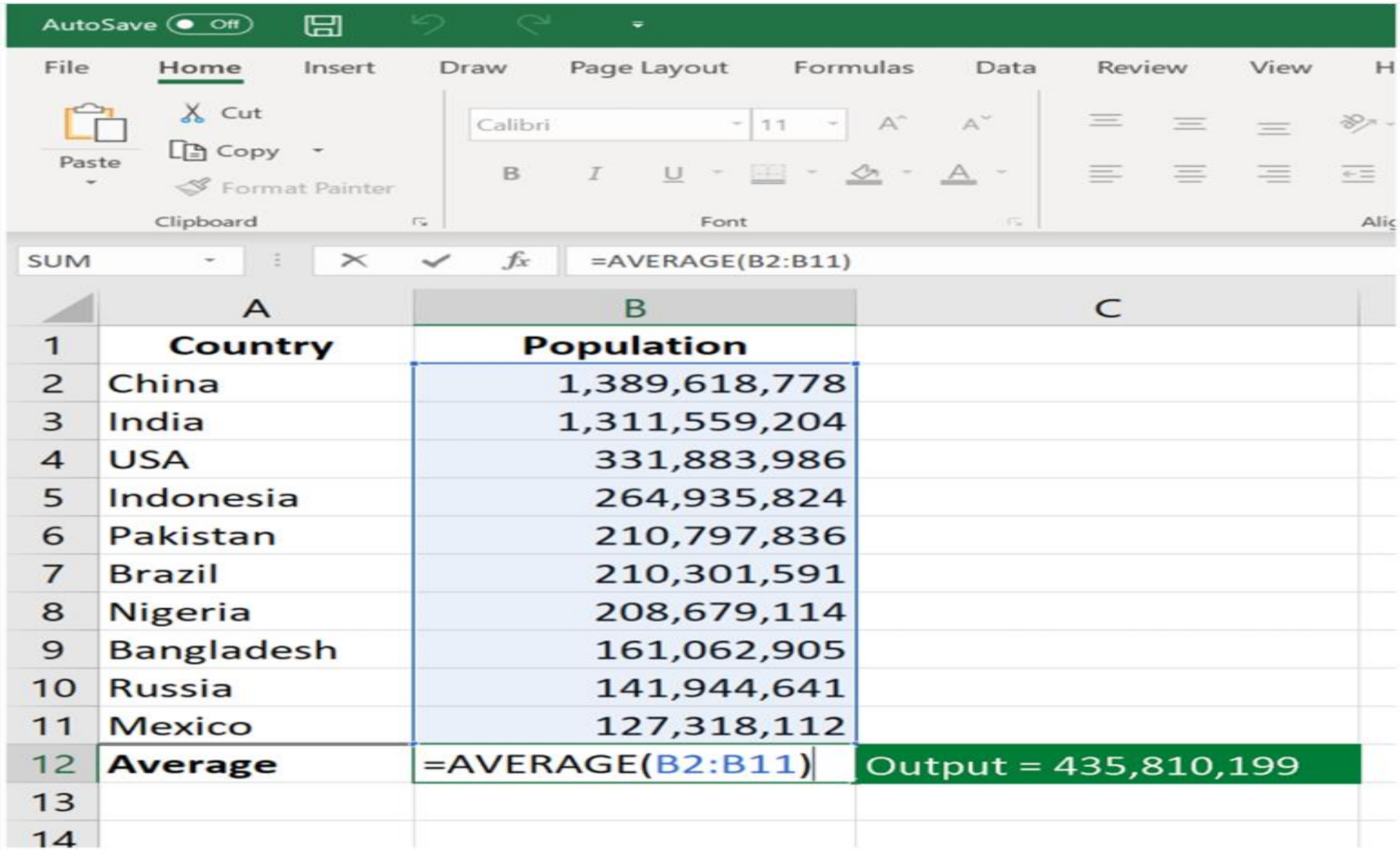
2. AVERAGE

The AVERAGE function should remind you of simple averages of data such as the average number of shareholders in a given shareholding pool.

=AVERAGE(number1, [number2], …)

Example:

=AVERAGE(B2:B11) – Shows a simple average, also similar to (SUM(B2:B11)/10)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=AVERAGE(B2:B11)
A B C
1 Country Population
2 China 1,389,618,778
3 India 1,311,559,204
4 USA 331,883,986
5 Indonesia 264,935,824
6 Pakistan 210,797,836
7 Brazil 210,301,591
8 Nigeria 208,679,114
9 Bangladesh 161,062,905
10 Russia 141,944,641
11 Mexico 127,318,112
12 Average =AVERAGE(B2:B11)
Output = 435,810,199
13
14

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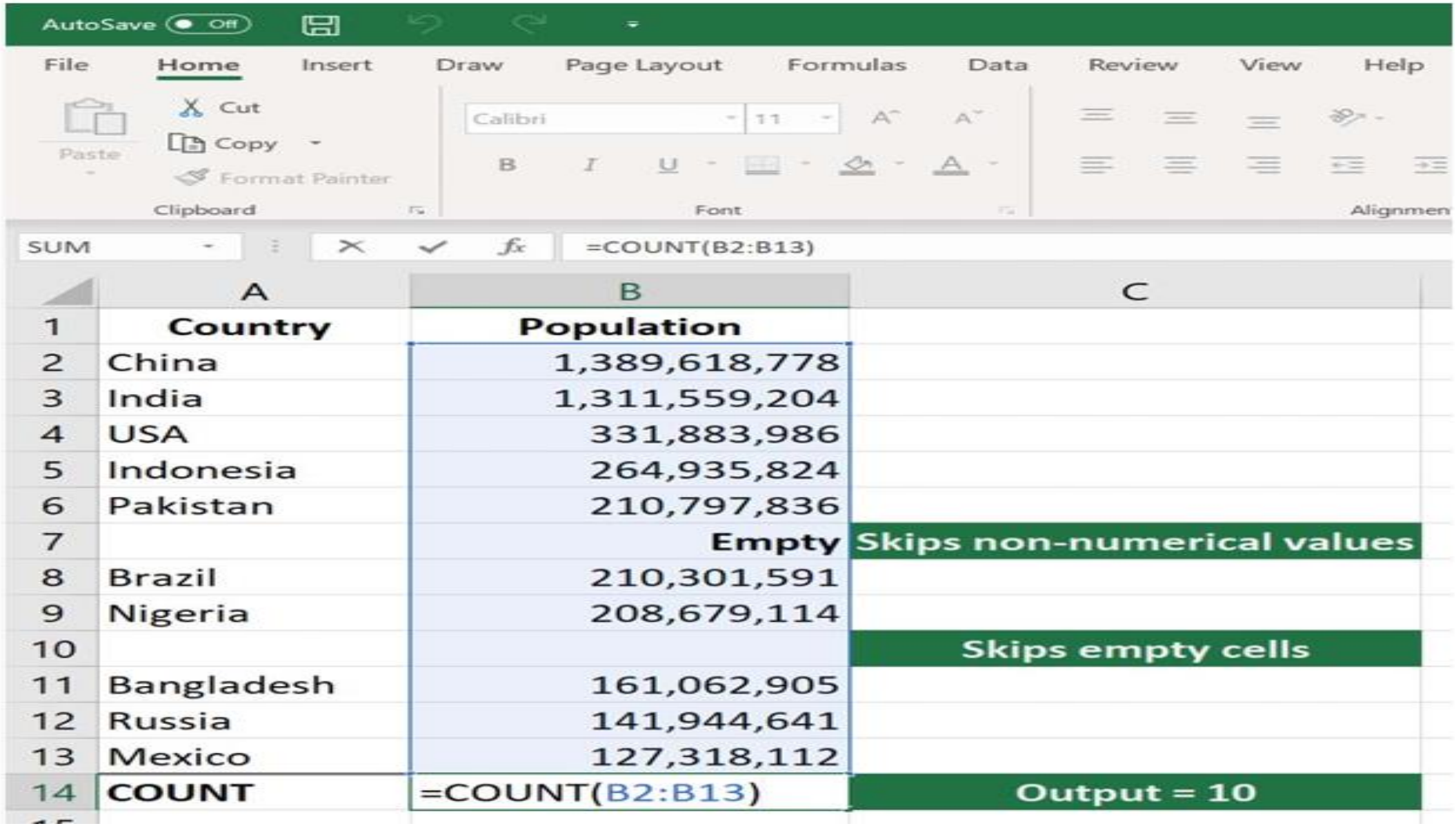
3. COUNT

The COUNT function counts all cells in a given range that contain only numeric values. =COUNT(value1, [value2], …)

Example: **COUNT(A:A)** – Counts all values that are numerical in A column.

However, you must adjust the range inside the formula to count rows.

COUNT(A1:C1) – Now it can count rows.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=COUNT(B2:B13)
A
B
C
1 Country Population
2 China 1,389,618,778
3 India 1,311,559,204
4 USA 331,883,986
5 Indonesia 264,935,824
6 Pakistan 210,797,836
7 Empty
8 Brazil 210,301,591
9 Nigeria 208,679,114
10
11 Bangladesh 161,062,905
12 Russia 141,944,641
13 Mexico 127,318,112
14 COUNT =COUNT(B2:B13)
Skips non-numerical values
Skips empty cells
Output = 10

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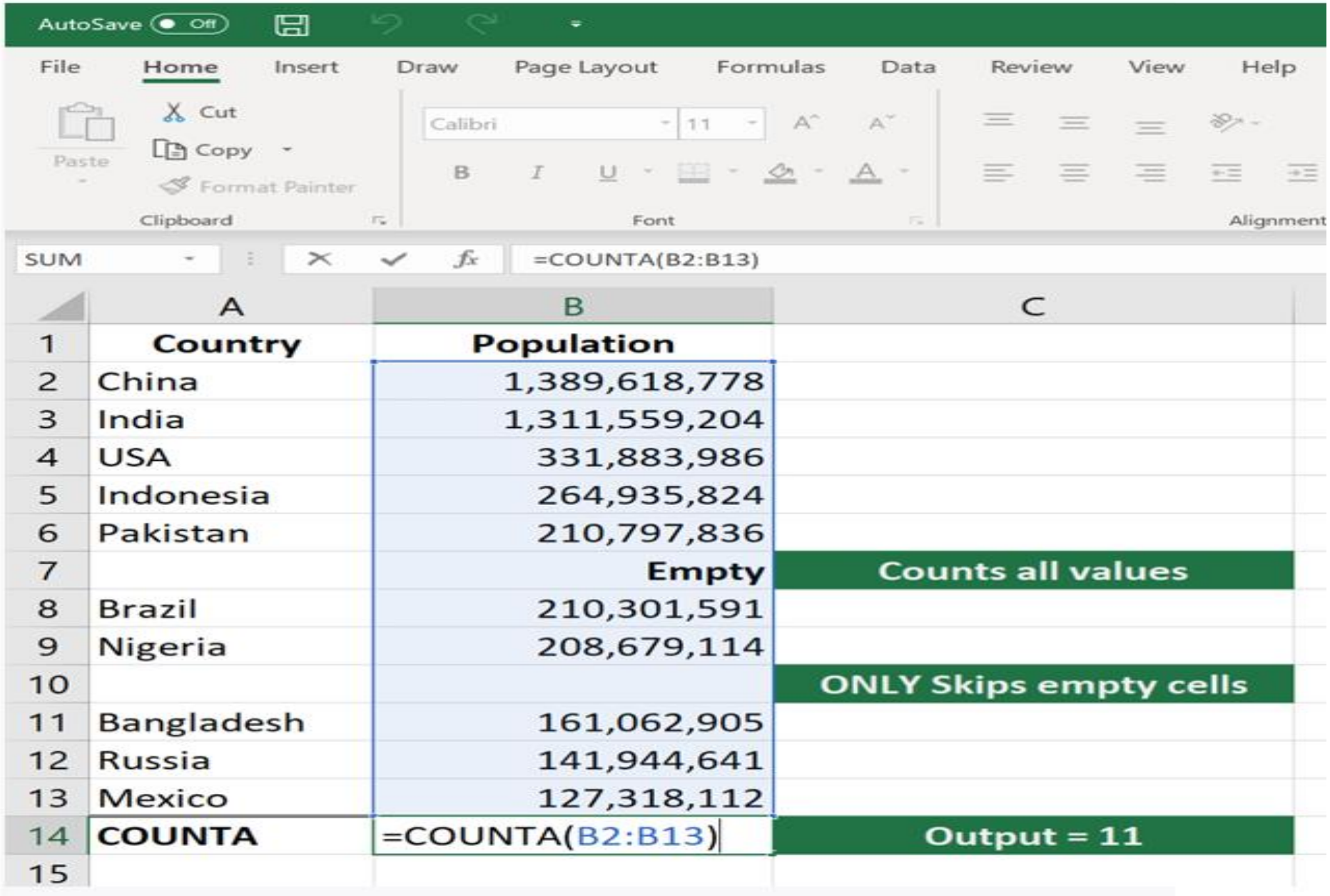
4. COUNTA

Like the COUNT function, COUNTA counts all cells in a given rage. However, it counts all cells regardless of type. That is, unlike COUNT that only counts numerics, it also counts dates, times, strings, logical values, errors, empty string, or text.

=COUNTA(value1, [value2], …)

Example:

COUNTA(C2:C13) – Counts rows 2 to 13 in column C regardless of type. However, like COUNT, you can't use the same formula to count rows. You must make an adjustment to the selection inside the brackets – for example, COUNTA(C2:H2) will count columns C to H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SUM
=COUNTA(B2:B13)
A B C
1 Country Population
2 China 1,389,618,778
3 India 1,311,559,204
4 USA 331,883,986
5 Indonesia 264,935,824
6 Pakistan 210,797,836
7 Empty
8 Brazil 210,301,591
9 Nigeria 208,679,114
10
11 Bangladesh 161,062,905
12 Russia 141,944,641
13 Mexico 127,318,112
14 COUNTA =COUNTA(B2:B13)
15
Counts all values
ONLY Skips empty cells
Output = 11

Seven Basic Excel Formulas For Your Workflow

5. IF

The IF function is often used when you want to sort your data according to a given logic. The best part of the IF formula is that you can embed formulas and function in it.

=IF(logical_test, [value_if_true], [value_if_false])

- Example:

=IF(C2<D3, ‘TRUE,’ ‘FALSE’) – Checks if the value at C3 is less than the value at D3. If the logic is true, let the cell value be TRUE, else, FALSE

=IF(SUM(C1:C10) > SUM(D1:D10), SUM(C1:C10), SUM(D1:D10)) – An example of a complex IF logic. First, it sums C1 to C10 and D1 to D10, then it compares the sum. If the sum of C1 to C10 is greater than the sum of D1 to D10, then it makes the value of a cell equal to the sum of C1 to C10. Otherwise, it makes it the SUM of C1 to C10.

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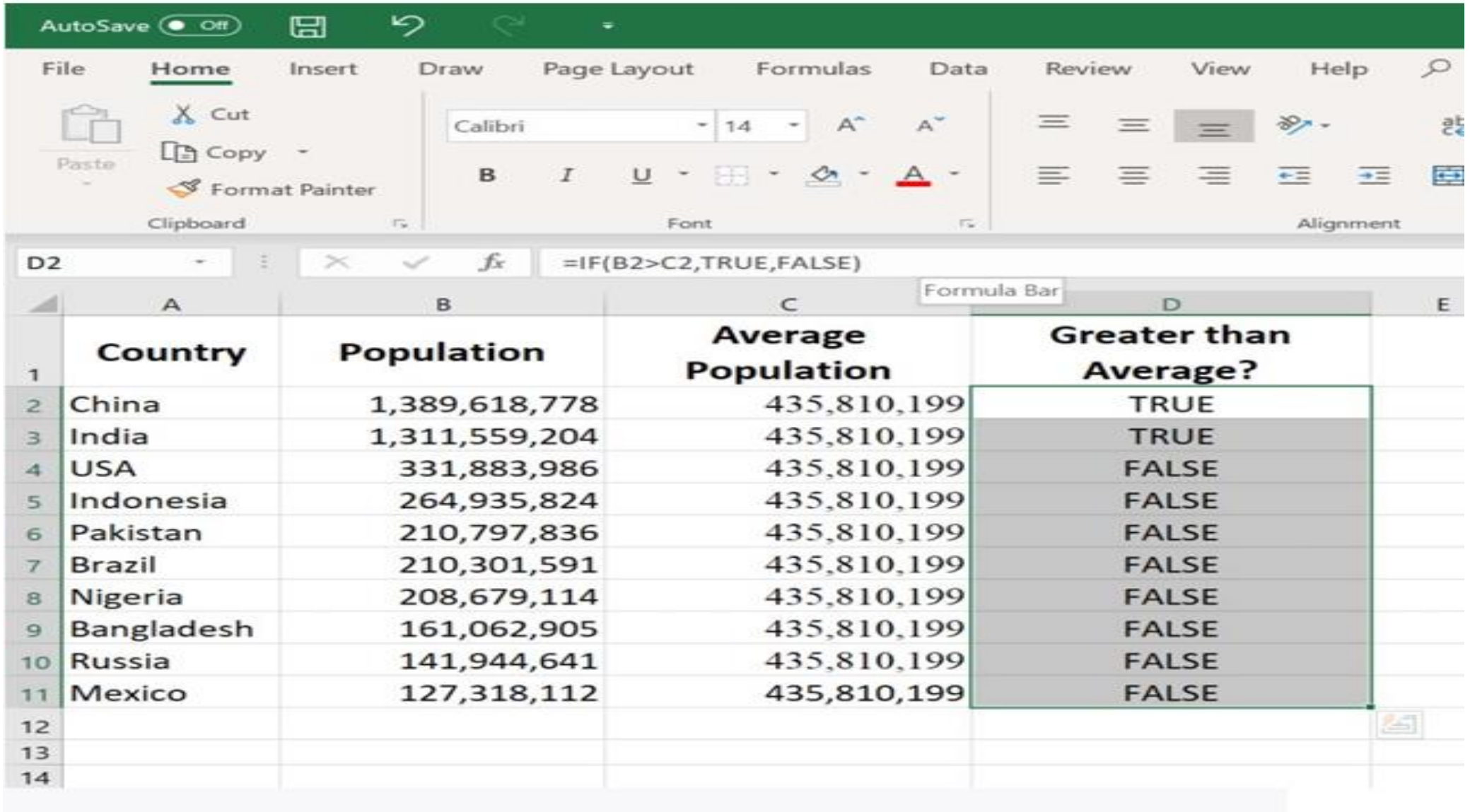

	A	B	C	D	E
1	Country	Population	Average Population	Greater than Average?	
2	China	1,389,618,778	435,810,199	TRUE	
3	India	1,311,559,204	435,810,199	TRUE	
4	USA	331,883,986	435,810,199	FALSE	
5	Indonesia	264,935,824	435,810,199	FALSE	
6	Pakistan	210,797,836	435,810,199	FALSE	
7	Brazil	210,301,591	435,810,199	FALSE	
8	Nigeria	208,679,114	435,810,199	FALSE	
9	Bangladesh	161,062,905	435,810,199	FALSE	
10	Russia	141,944,641	435,810,199	FALSE	
11	Mexico	127,318,112	435,810,199	FALSE	
12					
13					
14					

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6. MAX & MIN

The MAX and MIN functions help in finding the maximum number and the minimum number in a range of values. **=MIN(number1, [number2], …)**

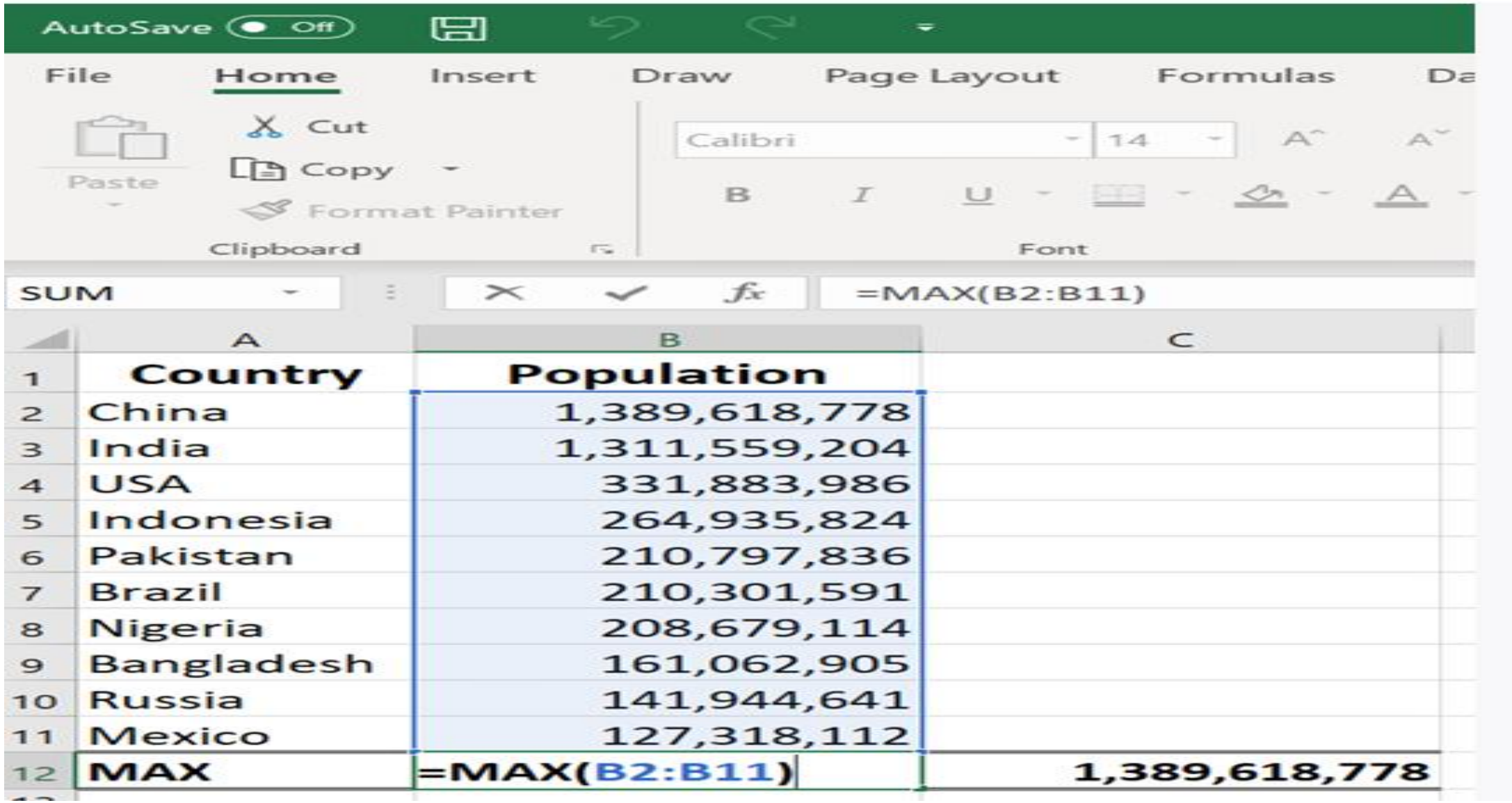
Example:

=MIN(B2:C11) – Finds the minimum number between column B from B2 and column C from C2 to row 11 in both columns B and C.

=MAX(number1, [number2], …)

Example:

=MAX(B2:C11) – Similarly, it finds the maximum number between column B from B2 and column C from C2 to row 11 in both columns B and C.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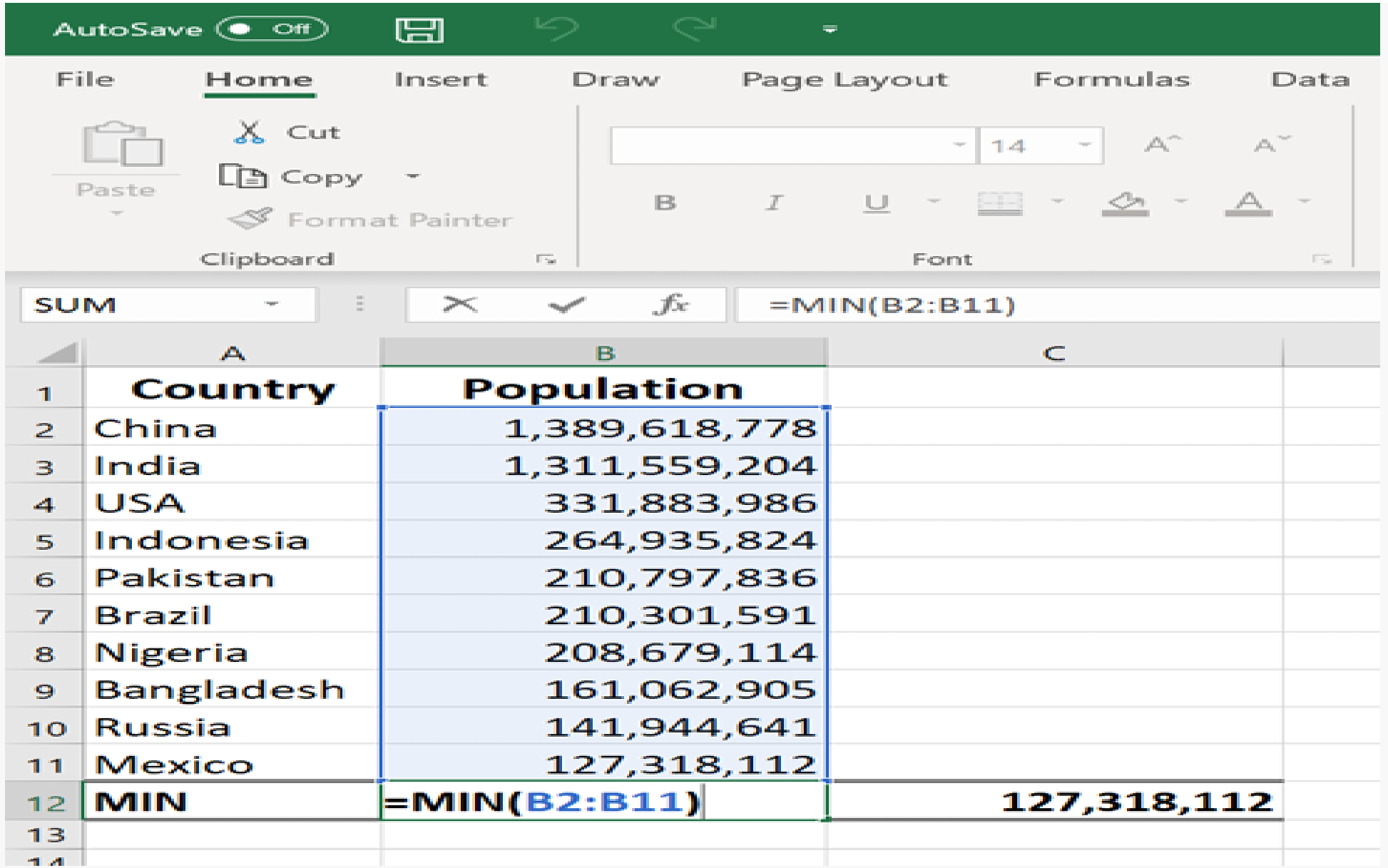
7 Brazil 210,301,591
8 Nigeria 208,679,114
9 Bangladesh 161,062,905
10 Russia 141,944,641
11 Mexico 127,318,112
12 MAX =MAX(B2:B11) 1,389,618,778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8 Nigeria 208,679,114
9 Bangladesh 161,062,905
10 Russia 141,944,641
11 Mexico 127,318,112
12 MIN =MIN(B2:B11) 127,318,112
13

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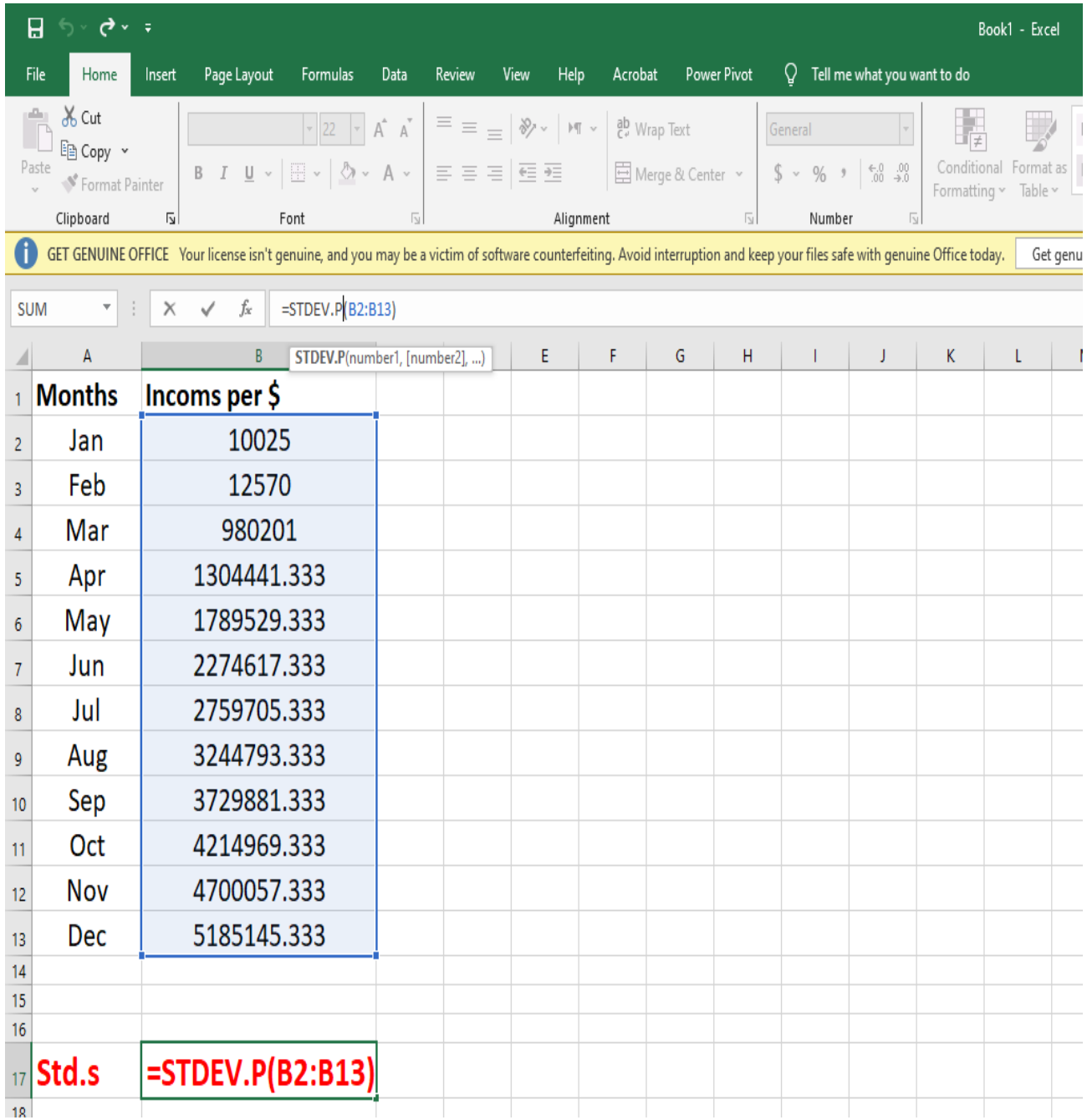
7- STDEV.P & STDEV.S

- STDEV.P : it’s available feature used to calculate the standard deviation of the populations
- STDEV.S : it’s available feature used to calculate the standard deviation of a sample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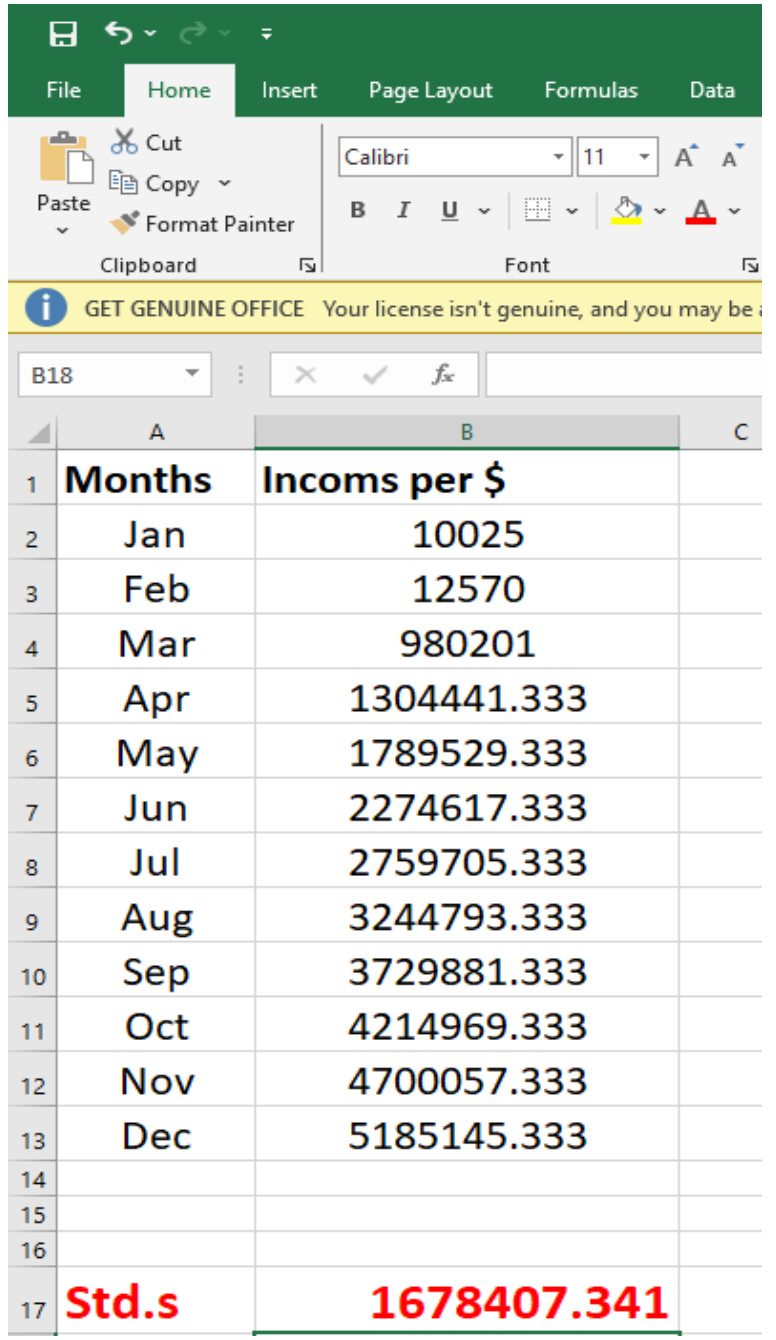
SUM
=STDEV.P(B2:B13)
STDEV.P(number1, [number2], ...)
Months Incoms per $
Jan 10025
Feb 12570
Mar 980201
Apr 1304441.333
May 1789529.333
Jun 2274617.333
Jul 2759705.333
Aug 3244793.333
Sep 3729881.333
Oct 4214969.333
Nov 4700057.333
Dec 5185145.333
Std.s
=STDEV.P(B2:B13)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Months Incoms per $
Jan 10025
Feb 12570
Mar 980201
Apr 1304441.333
May 1789529.333
Jun 2274617.333
Jul 2759705.333
Aug 3244793.333
Sep 3729881.333
Oct 4214969.333
Nov 4700057.333
Dec 5185145.333
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