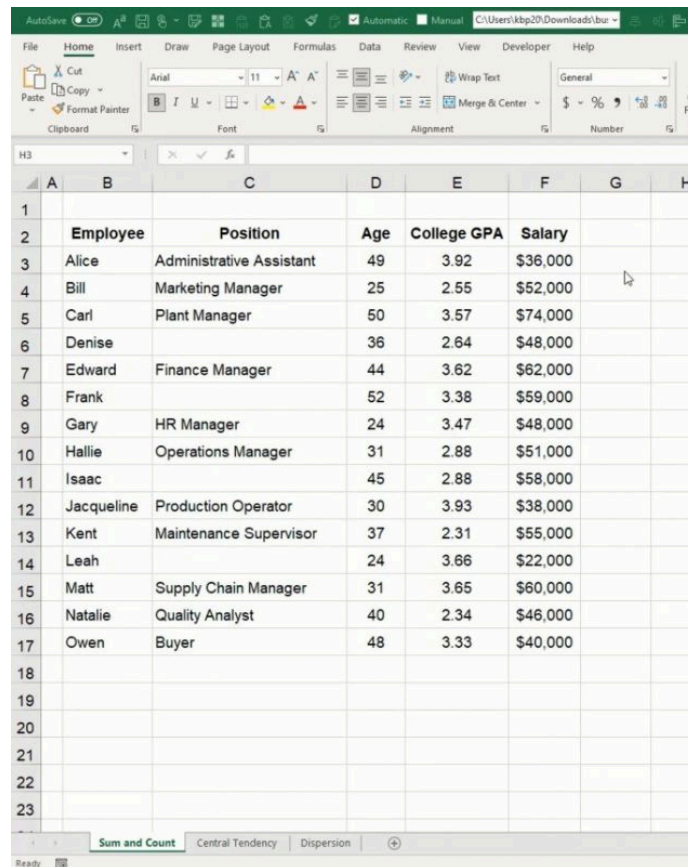


Sum and Count

In this chapter, you will learn how to summarize data with the sum and count functions. We have a table of data of some employees at a business. We have the name of the employee, their position, age, college GPA, and current salary. (See **Figure 6.1**)



	A	B	C	D	E	F	G	H
1								
2		Employee	Position	Age	College GPA	Salary		
3		Alice	Administrative Assistant	49	3.92	\$36,000		
4		Bill	Marketing Manager	25	2.55	\$52,000		
5		Carl	Plant Manager	50	3.57	\$74,000		
6		Denise		36	2.64	\$48,000		
7		Edward	Finance Manager	44	3.62	\$62,000		
8		Frank		52	3.38	\$59,000		
9		Gary	HR Manager	24	3.47	\$48,000		
10		Hallie	Operations Manager	31	2.88	\$51,000		
11		Isaac		45	2.88	\$58,000		
12		Jacqueline	Production Operator	30	3.93	\$38,000		
13		Kent	Maintenance Supervisor	37	2.31	\$55,000		
14		Leah		24	3.66	\$22,000		
15		Matt	Supply Chain Manager	31	3.65	\$60,000		
16		Natalie	Quality Analyst	40	2.34	\$46,000		
17		Owen	Buyer	48	3.33	\$40,000		
18								
19								
20								
21								
22								
23								

Figure 6.1

Practice Spreadsheet

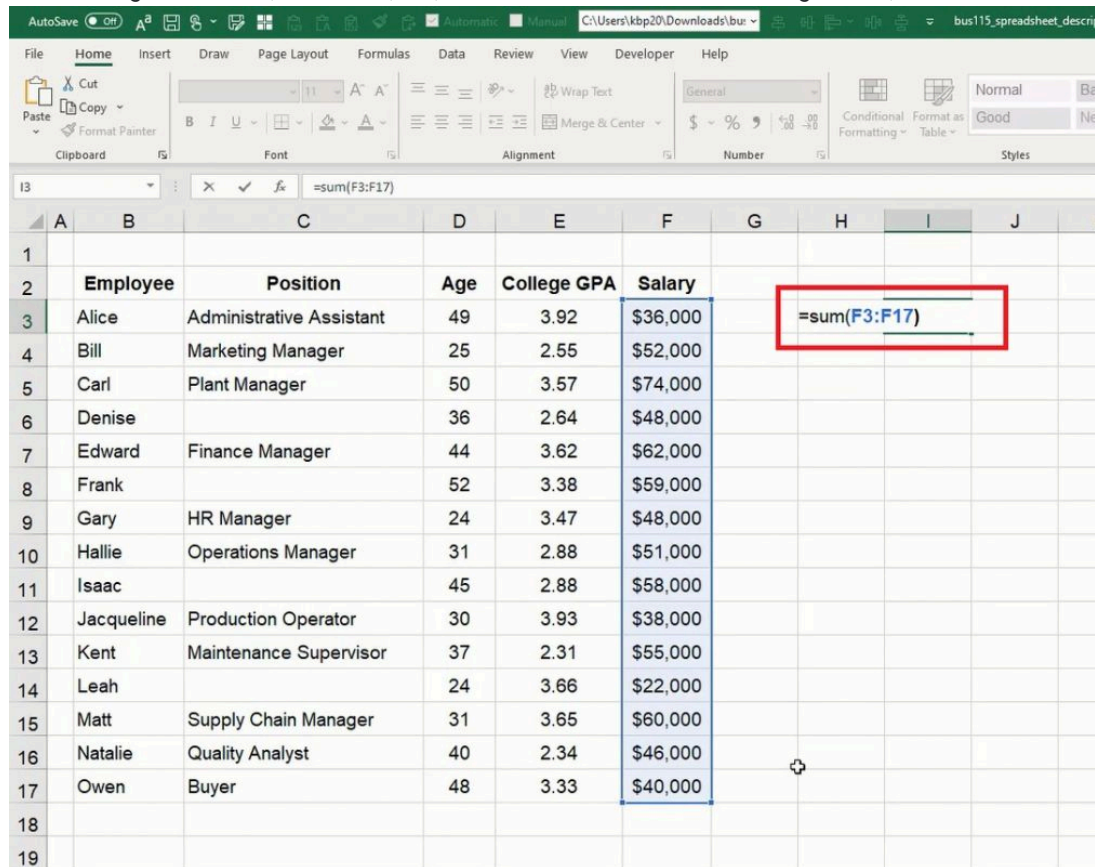
Use this [workbook](#) for the chapter.

Note: This is the same workbook used in the Managing Worksheets chapter.

Sum Function

Let's look at the salary column. Let's suppose that we want to calculate the sum total of all the employees' salaries. We can do this with the Sum function.

1. Select an empty cell and type an equals symbol (=) to start the formula.
2. Type **sum** and an open (left) parentheses (().
3. Select all of the data to sum (F3 to F17 in **Figure 6.2**).
4. Type a close (right) parenthesis ()) to close the formula data reference.
5. Press **Enter** to complete the cell's formula (=**sum(F3:F17)**).
 - a. The total comes to \$749,000.
 - b. If one of the salaries changes, then the sum total will automatically reflect that change. For example, if the F3 cell's data changes from \$36,000 to \$38,000, the sum total will reflect the change: \$751,000.



The screenshot shows the Microsoft Excel interface. The formula bar at the top displays `=sum(F3:F17)`. In the spreadsheet, cell I3 contains this formula. A red rectangle highlights the formula bar and cell I3. The spreadsheet data is as follows:

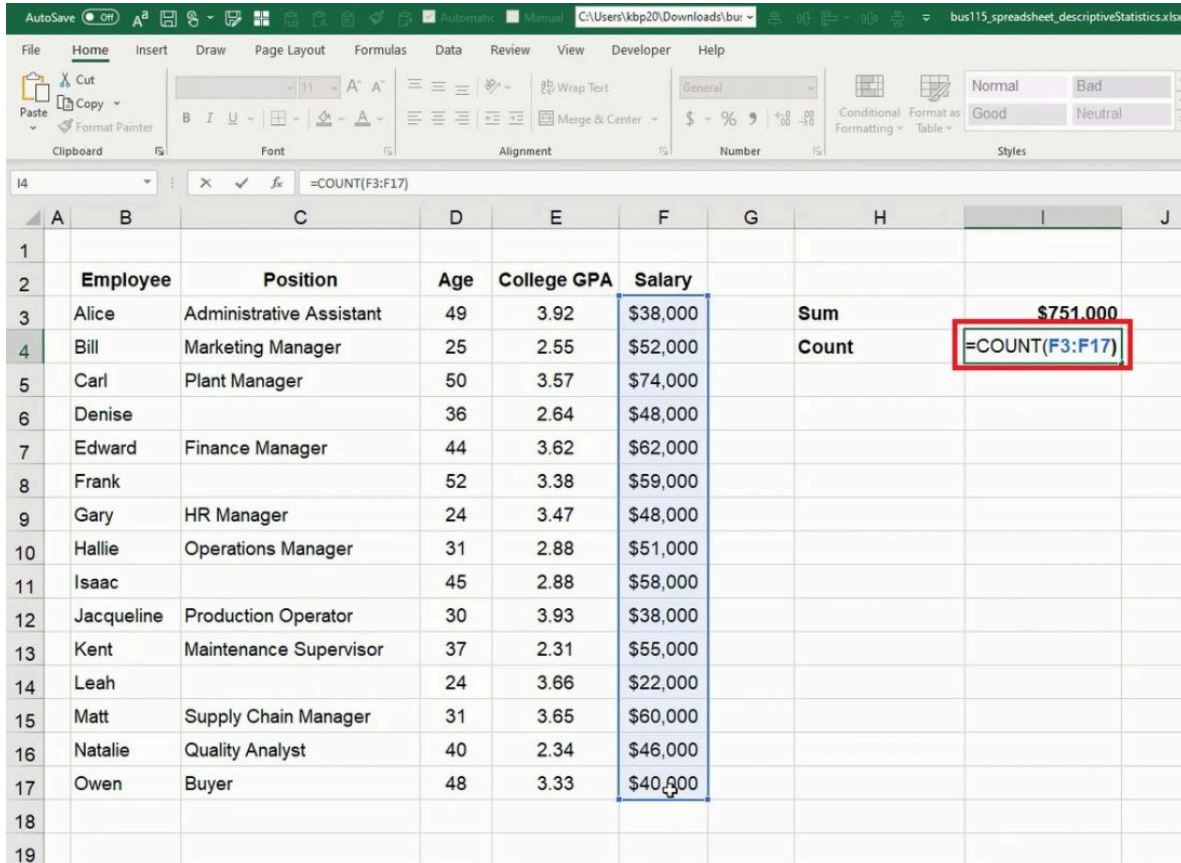
	A	B	C	D	E	F	G	H	I	J
1										
2		Employee	Position	Age	College GPA	Salary				
3		Alice	Administrative Assistant	49	3.92	\$36,000				
4		Bill	Marketing Manager	25	2.55	\$52,000				
5		Carl	Plant Manager	50	3.57	\$74,000				
6		Denise		36	2.64	\$48,000				
7		Edward	Finance Manager	44	3.62	\$62,000				
8		Frank		52	3.38	\$59,000				
9		Gary	HR Manager	24	3.47	\$48,000				
10		Hallie	Operations Manager	31	2.88	\$51,000				
11		Isaac		45	2.88	\$58,000				
12		Jacqueline	Production Operator	30	3.93	\$38,000				
13		Kent	Maintenance Supervisor	37	2.31	\$55,000				
14		Leah		24	3.66	\$22,000				
15		Matt	Supply Chain Manager	31	3.65	\$60,000				
16		Natalie	Quality Analyst	40	2.34	\$46,000				
17		Owen	Buyer	48	3.33	\$40,000				
18										
19										

Figure 6.2

Count Function

Let's suppose that we want to count the number of salaries in the list. We can do it with the Count function. The Count function counts numerical data only; it will not recognize text.

1. Select an empty cell and type an equals symbol (=) to start the formula.
2. Type **count** and an open (left) parenthesis (().
3. Select all of the data to count (F3 to F17 in **Figure 6.3**).
4. Type a close (right) parenthesis ()) to close the formula data reference.
5. Press **Enter** to complete the cell's formula (=**count(F3:F17)**).
 - a. The total count of salaries in **Figure 6.3** is 15.
 - b. If one or more of the counted data is deleted, the count will recognize that change. For example, if the salary data for Carl in cell F5 is deleted, the total count will change from 15 to 14.



	A	B	C	D	E	F	G	H	I	J
1										
2		Employee	Position	Age	College GPA	Salary				
3		Alice	Administrative Assistant	49	3.92	\$38,000		Sum	\$751,000	
4		Bill	Marketing Manager	25	2.55	\$52,000		Count	=COUNT(F3:F17)	
5		Carl	Plant Manager	50	3.57	\$74,000				
6		Denise		36	2.64	\$48,000				
7		Edward	Finance Manager	44	3.62	\$62,000				
8		Frank		52	3.38	\$59,000				
9		Gary	HR Manager	24	3.47	\$48,000				
10		Hallie	Operations Manager	31	2.88	\$51,000				
11		Isaac		45	2.88	\$58,000				
12		Jacqueline	Production Operator	30	3.93	\$38,000				
13		Kent	Maintenance Supervisor	37	2.31	\$55,000				
14		Leah		24	3.66	\$22,000				
15		Matt	Supply Chain Manager	31	3.65	\$60,000				
16		Natalie	Quality Analyst	40	2.34	\$46,000				
17		Owen	Buyer	48	3.33	\$40,000				
18										
19										

Figure 6.3

CountA Function

Another count function is the CountA Function. This function works the same as the Count function, except it is used to count non-numerical data—textual data such as names or positions.

1. Select an empty cell and type an equals symbol (=) to start the formula.
2. Type **counta** and an open (left) parenthesis (().
3. Select all of the data to count (B3 to B17 in **Figure 6.4**).
4. Type a close (right) parenthesis ()) to close the formula data reference.
5. Press **Enter** to complete the cell's formula (=**counta(B3:B17)**).
 - a. The total count of employees is 15.
 - b. If another CountA is inserted for the Positions column, the total count of positions comes to 11. The difference between the results reveals 4 employees do not have positions.

	A	B	C	D	E	F	G	H	I	J
1										
2		Employee	Position	Age	College GPA	Salary				
3		Alice	Administrative Assistant	49	3.92	\$38,000		Sum	\$677,000	
4		Bill	Marketing Manager	25	2.55	\$52,000		Count	14	
5		Carl	Plant Manager	50	3.57			Counta	=counta(B3:B17)	0
6		Denise		36	2.64	\$48,000				
7		Edward	Finance Manager	44	3.62	\$62,000				
8		Frank		52	3.38	\$59,000				
9		Gary	HR Manager	24	3.47	\$48,000				
10		Hallie	Operations Manager	31	2.88	\$51,000				
11		Isaac		45	2.88	\$58,000				
12		Jacqueline	Production Operator	30	3.93	\$38,000				
13		Kent	Maintenance Supervisor	37	2.31	\$55,000				
14		Leah		24	3.66	\$22,000				
15		Matt	Supply Chain Manager	31	3.65	\$60,000				
16		Natalie	Quality Analyst	40	2.34	\$46,000				
17		Owen	Buyer	48	3.33	\$40,000				
18										
19										

Figure 6.5

CountBlank Function

The CountBlank function can tell us the number of blank cells in a data set. In this case, we can verify the number of employees without positions from the CountA function example.

1. Select an empty cell and type an equals symbol (=) to start the formula.
2. Type **countblank** and an open (left) parenthesis (().
3. Select all of the data to count (C3 to C17 in **Figure 6.5**).
4. Type a close (right) parenthesis ()) to close the formula data reference.
5. Press **Enter** to complete the cell's formula (**=countblank(C3:C17)**).
 - a. The total count of blank cells is 4 in the Positions data set.

	A	B	C	D	E	F	G	H	I	J
1										
2		Employee	Position	Age	College GPA	Salary				
3		Alice	Administrative Assistant	49	3.92	\$38,000		Sum	\$677,000	
4		Bill	Marketing Manager	25	2.55	\$52,000		Count	14	
5		Carl	Plant Manager	50	3.57			Counta	15	0
6		Denise		36	2.64	\$48,000			11	
7		Edward	Finance Manager	44	3.62	\$62,000		=COUNTBLANK(C3:C17)		
8		Frank		52	3.38	\$59,000				
9		Gary	HR Manager	24	3.47	\$48,000				
10		Hallie	Operations Manager	31	2.88	\$51,000				
11		Isaac		45	2.88	\$58,000				
12		Jacqueline	Production Operator	30	3.93	\$38,000				
13		Kent	Maintenance Supervisor	37	2.31	\$55,000				
14		Leah		24	3.66	\$22,000				
15		Matt	Supply Chain Manager	31	3.65	\$60,000				
16		Natalie	Quality Analyst	40	2.34	\$46,000				
17		Owen	Buyer	48	3.33	\$40,000				
18										
19										

Figure 6.5

When completed, your practice worksheet should look like the following:

