EXCEL FORMULAS

FORMULAS

- Formulas perform operations such as addition, multiplication, and comparison on worksheet values.
- Formulas can refer to other cells on the same worksheet, cells on other worksheets in the same workbook, or even cells on worksheets in other workbooks.
- Formulas may make use of built-in functions.

SUM FUNCTION

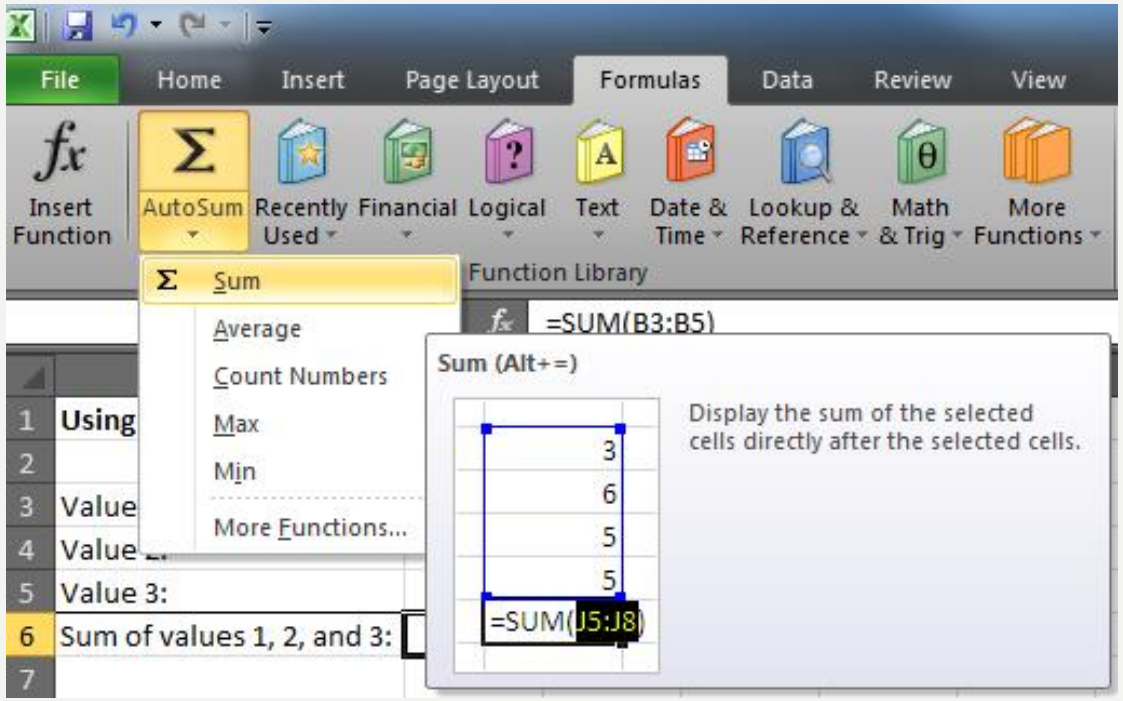
DEFINITION:

- Probably the most popular function in any spreadsheet is the SUM function. The Sum function takes all of the values in each of the specified cells and totals their values.
- The syntax is: =SUM(first value, second value, etc)

TIPS:

- Blank cells will return a value of zero to be added to the total.
- Text cells can not be added to a number and will produce an error.

SUM FUNCTION

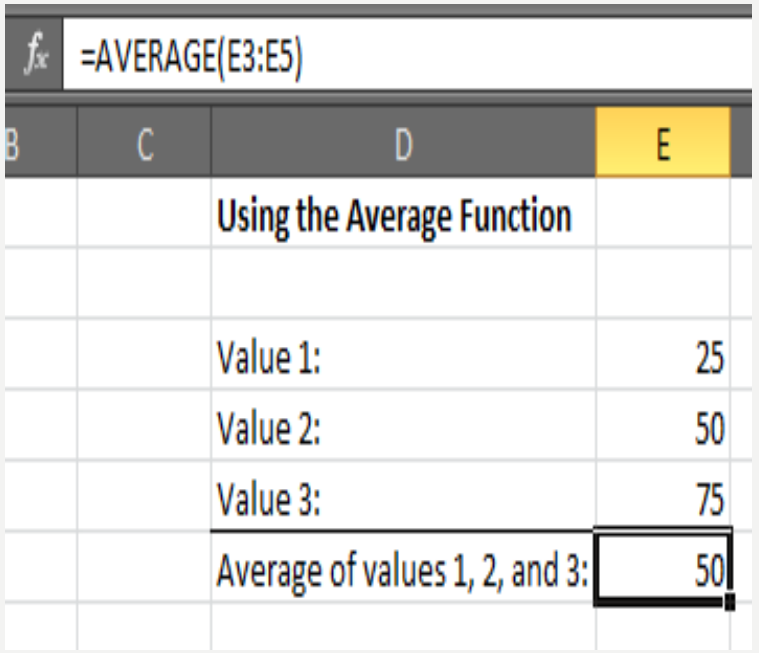


B6 =SUM(B3:B5)

	A	B	C
1	**Using the SUM Function**		
2			
3	Value 1:	25	
4	Value 2:	50	
5	Value 3:	75	
6	Sum of values 1, 2, and 3:	150	

AVERAGE FUNCTION

- The average function finds the average of the specified data. (Simplifies adding all of the indicated cells together and dividing by the total number of cells.)



MAX & MIN FUNCTIONS

- The **Max** function will return the largest (max) value in the selected range of cells. The **Min** function will display the smallest value in a selected set of cells.

8	**Using the Max Function**			**Using the Min Function**	
9					
10	Value 1:	25		Value 1:	25
11	Value 2:	50		Value 2:	50
12	Value 3:	75		Value 3:	75
13	Max value from values 1, 2, and 3:	75		Max value from values 1, 2, and 3:	25

COUNT FUNCTION

- The **Count** function will return the number of entries (actually counts each cell that contains NUMBER DATA) in the selected range of cells.
- Remember: cell that are blank or contain text will not be counted.

B15 =COUNT(A1:E13)

	A	B	C	D	E
1	**Using the SUM Function**			**Using the Average Function**	
2					
3	Value 1:	25		Value 1:	25
4	Value 2:	50		Value 2:	50
5	Value 3:	75		Value 3:	75
6	Sum of values 1, 2, and 3:	150		Average of values 1, 2, and 3:	50
7					
8	**Using the Max Function**			**Using the Min Function**	
9					
10	Value 1:	25		Value 1:	25
11	Value 2:	50		Value 2:	50
12	Value 3:	75		Value 3:	75
13	Max value from values 1, 2, and 3:	75		Max value from values 1, 2, and 3:	25
14					
15	Count of area shaded blue:	16			

IF FUNCTION

DEFINITION:

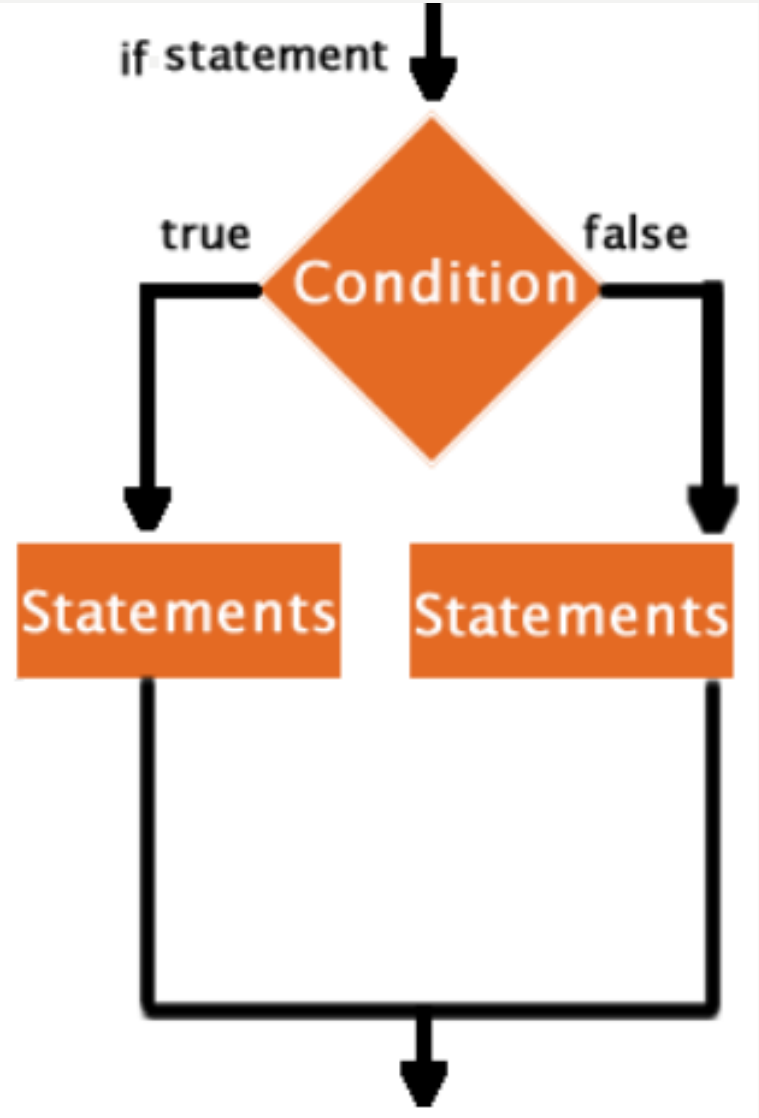
- The IF function will check the logical condition of a statement and return one value if true and a different value if false.
- The syntax is:
  =IF (condition, value-if-true, value-if-false)

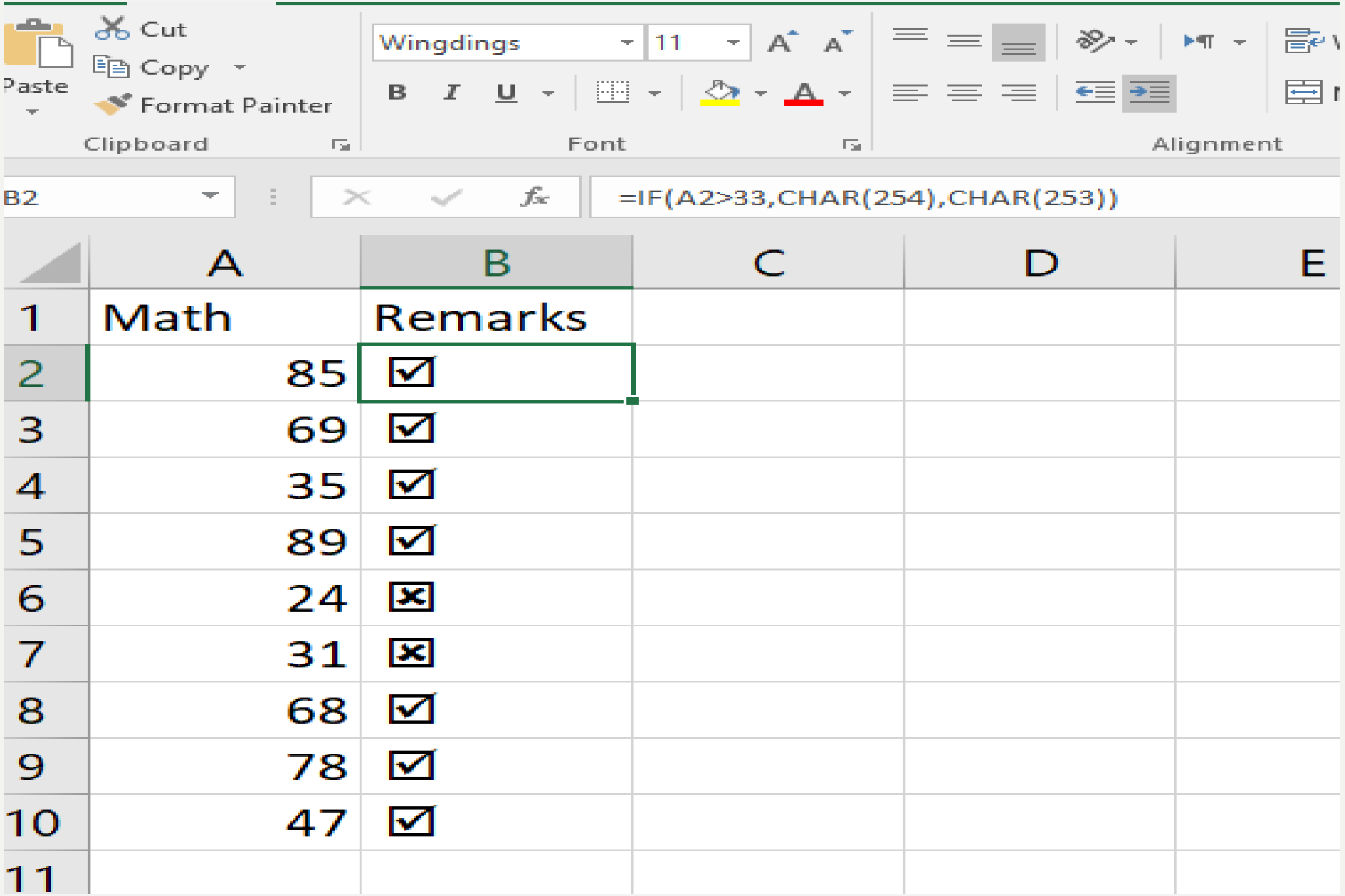
TIPS:

- Until you are used to writing them, test them out on multiple cells.
- There are multiple ways to write an IF statement to get the same result

IF FUNCTION

- IF Functions are like programing - they provide multiple answers based on certain conditions.




Cut
Copy
Format Painter
Paste
Clipboard
Wingdings
11
Font
Alignment
B2
=IF(A2>33,CHAR(254),CHAR(253))
A
B
C
D
E
1 Math Remarks
2 85
3 69
4 35
5 89
6 24
7 31
8 68
9 78
10 47
11

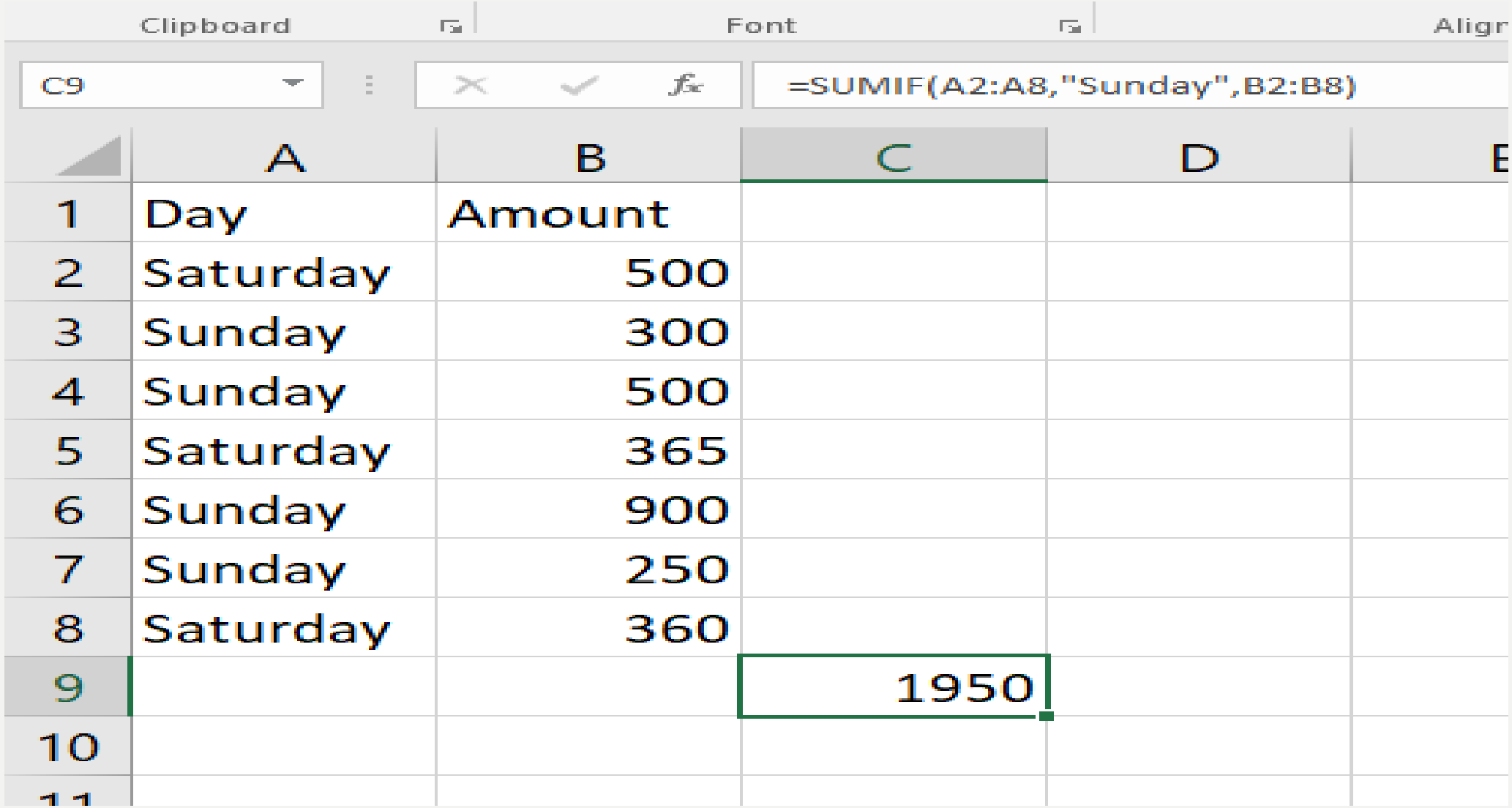
SUM IF

Purpose
Sum numbers in a range that meet supplied criteria
Return value
The sum of values supplied.

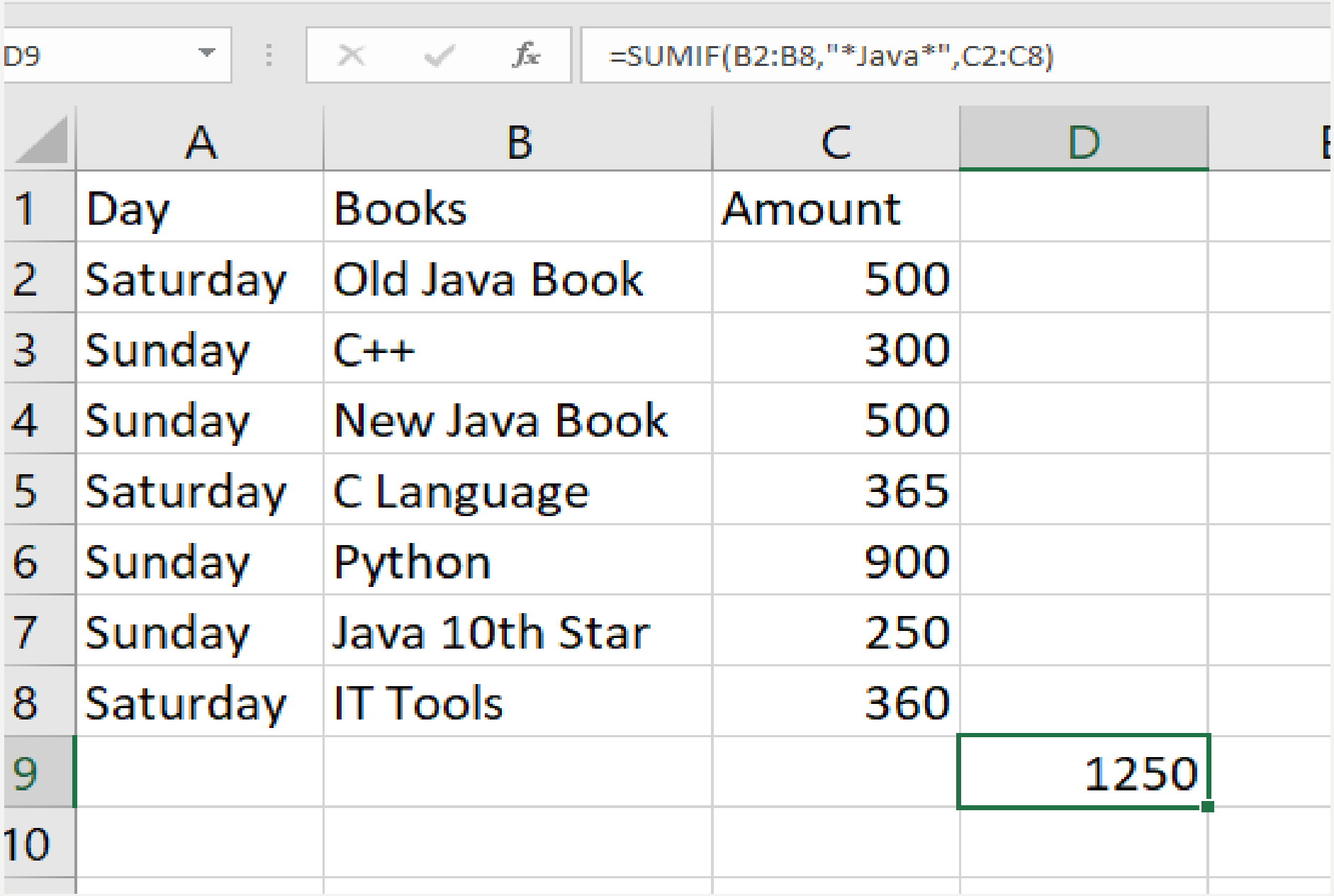
Arguments :
range - The range of cells that you want to apply the criteria against.
criteria - The criteria used to determine which cells to add.
sum_range - [optional] The cells to add together. If sum_range is omitted, the cells in range are added together instead.

=SUMIF (range, criteria, [sum_range])

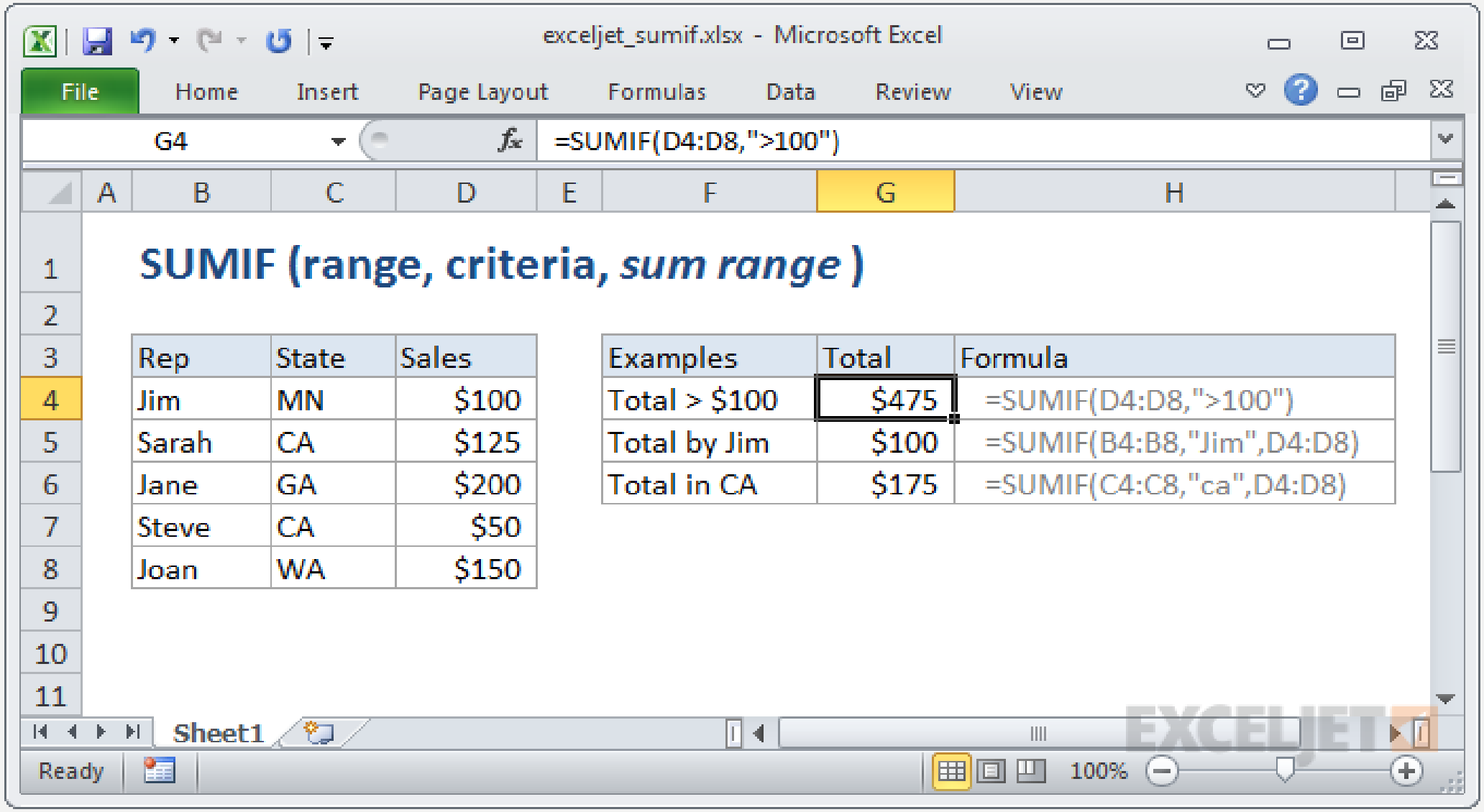
SUM IF



	A	B	C	D	E
1	Day	Amount			
2	Saturday	500			
3	Sunday	300			
4	Sunday	500			
5	Saturday	365			
6	Sunday	900			
7	Sunday	250			
8	Saturday	360			
9			1950		
10					
11					


D9
=SUMIF(B2:B8,"*Java*",C2:C8)
A
B
C
D
1 Day Books Amount
2 Saturday Old Java Book 500
3 Sunday C++ 300
4 Sunday New Java Book 500
5 Saturday C Language 365
6 Sunday Python 900
7 Sunday Java 10th Star 250
8 Saturday IT Tools 360
9 1250
10

SUMIF is a function to sum cells that meet a single criteria. SUMIF can be used to sum cells based on dates, numbers, and text that match specific criteria.



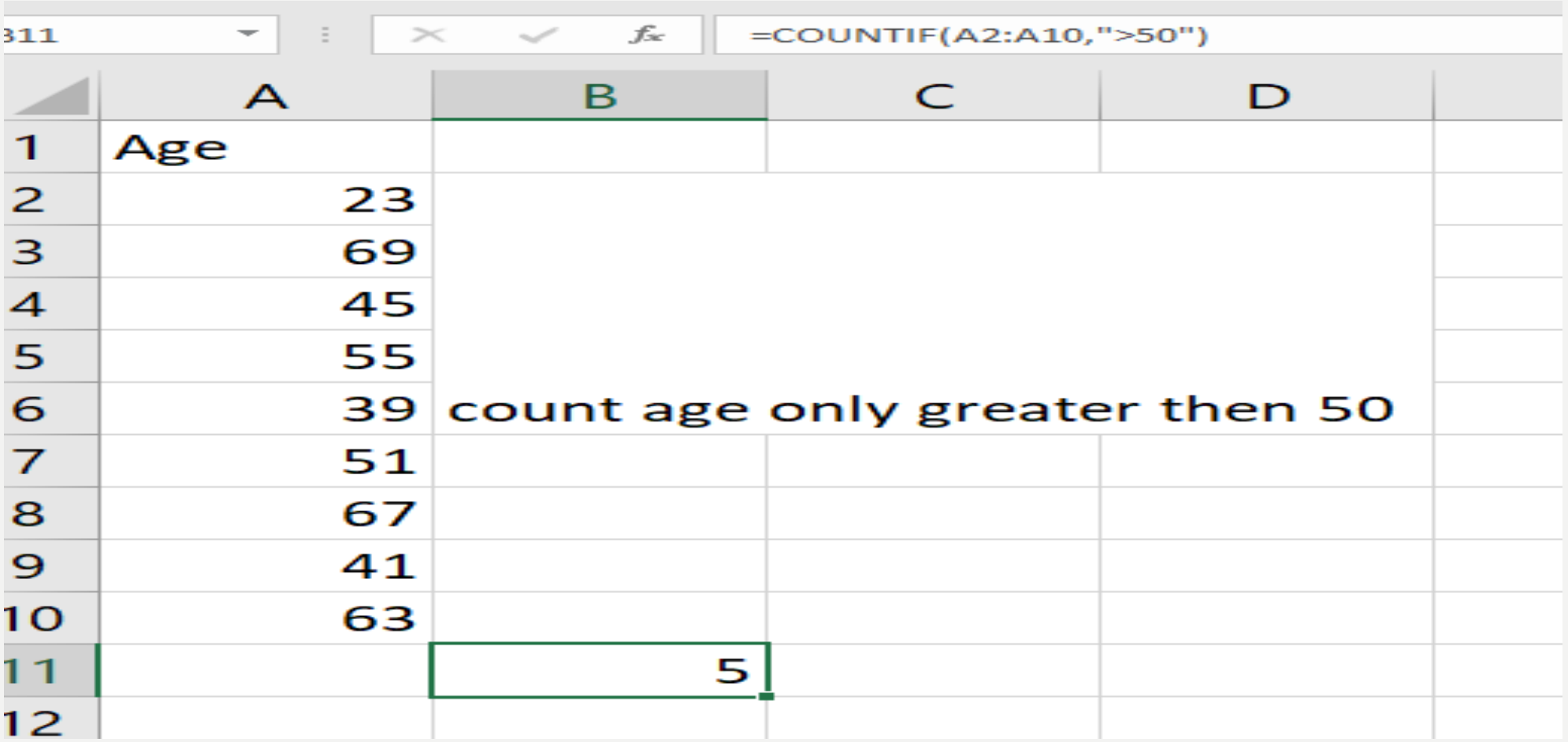
F4

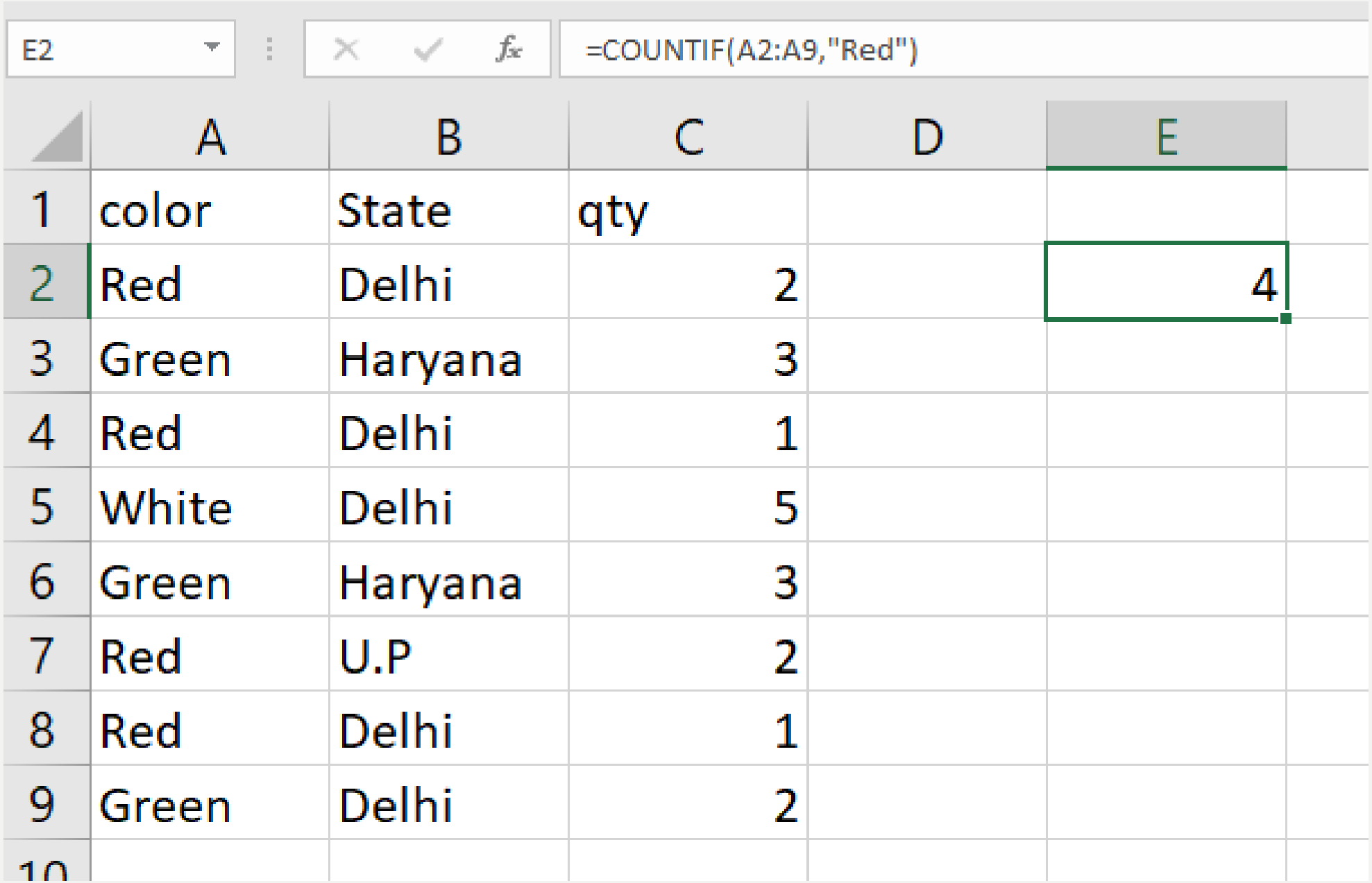
=SUMIFS(C2:C13,A2:A13,"Mohan",B2:B13,"Shirt")

	A	B	C	D	E	F	G	H
1	Name	Product	Items					
2	Mohan	Shirt	5					
3	Sohan	Jeans	3		Name	Shirt	Jeans	T_shirt
4	Harry	Shirt	8		Mohan	7		
5	Mohan	Jeans	7		Sohan			
6	Harry	T-Shirt	5		Harry			
7	Mohan	Shirt	2					
8	Harry	T-Shirt	6					
9	Mohan	Jeans	5					
10	Sohan	T-Shirt	6					
11	Sohan	Shirt	2					
12	Mohan	Jeans	3					
13	Sohan	T-Shirt	7					

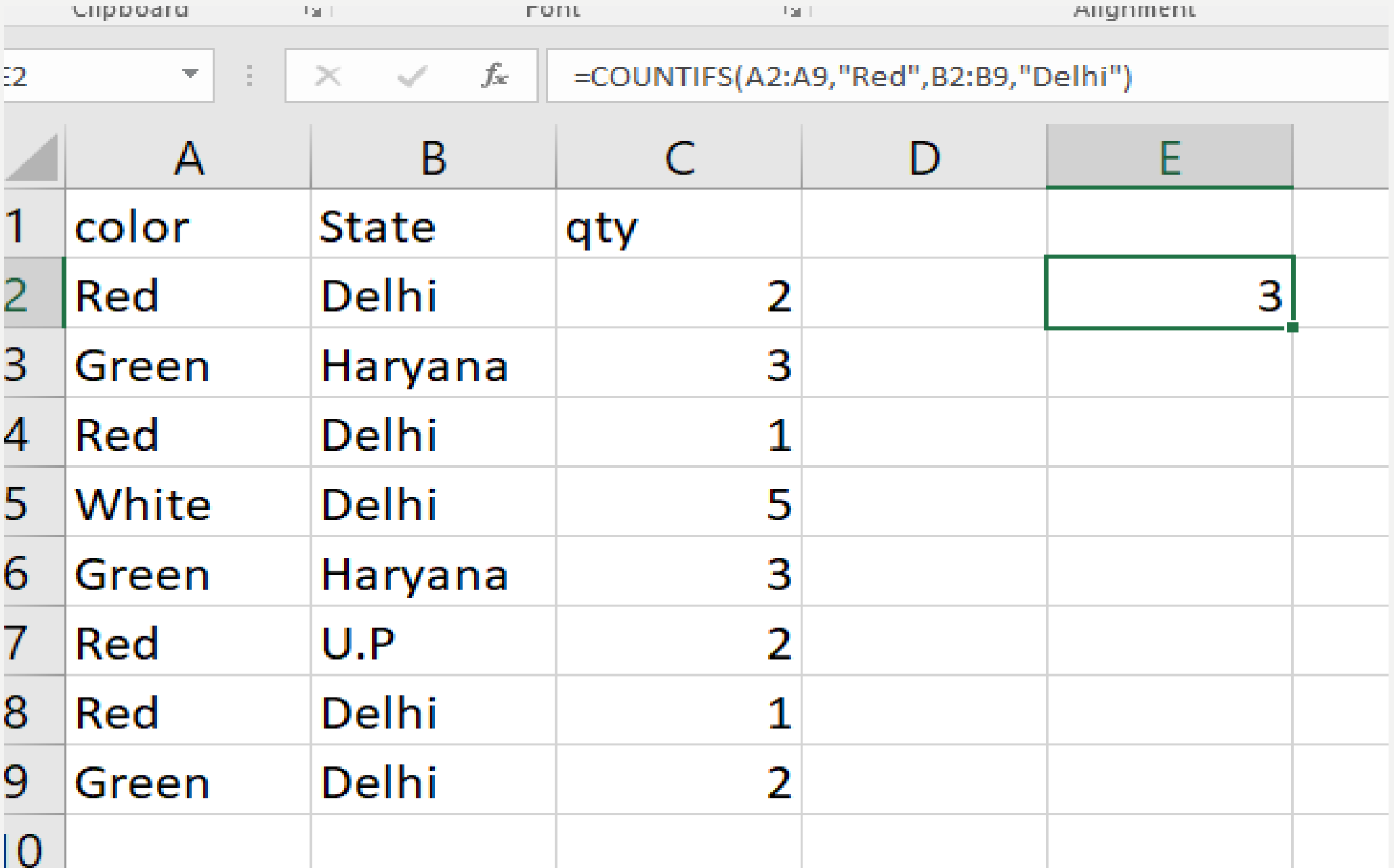
COUNTIF

COUNTIF is a function to count cells that meet a single criteria. COUNTIF can be used to count cells with dates, numbers, and text that match specific criteria.





	A	B	C	D	E
1	color	State	qty		
2	Red	Delhi	2		4
3	Green	Haryana	3		
4	Red	Delhi	1		
5	White	Delhi	5		
6	Green	Haryana	3		
7	Red	U.P	2		
8	Red	Delhi	1		
9	Green	Delhi	2		
10					


Clipboard
Font
Alignment
E2
=COUNTIFS(A2:A9,"Red",B2:B9,"Delhi")
A
B
C
D
E
1 color State qty
2 Red Delhi 2 3
3 Green Haryana 3
4 Red Delhi 1
5 White Delhi 5
6 Green Haryana 3
7 Red U.P 2
8 Red Delhi 1
9 Green Delhi 2
10

E4 =COUNTIFS(B2:B11,C4,A2:A11,D4)

	A	B	C	D	E
1	Department	Gender			
2	Sales	Male			
3	Purchase	Female	Gender	Department	Count
4	Admin	Male	Female	Admin	2
5	Administration	Female			
6	Admin	Female			
7	Sales	Male			
8	Purchase	Female			
9	Administration	Male			
10	Admin	Female			
11	Sales	Male			

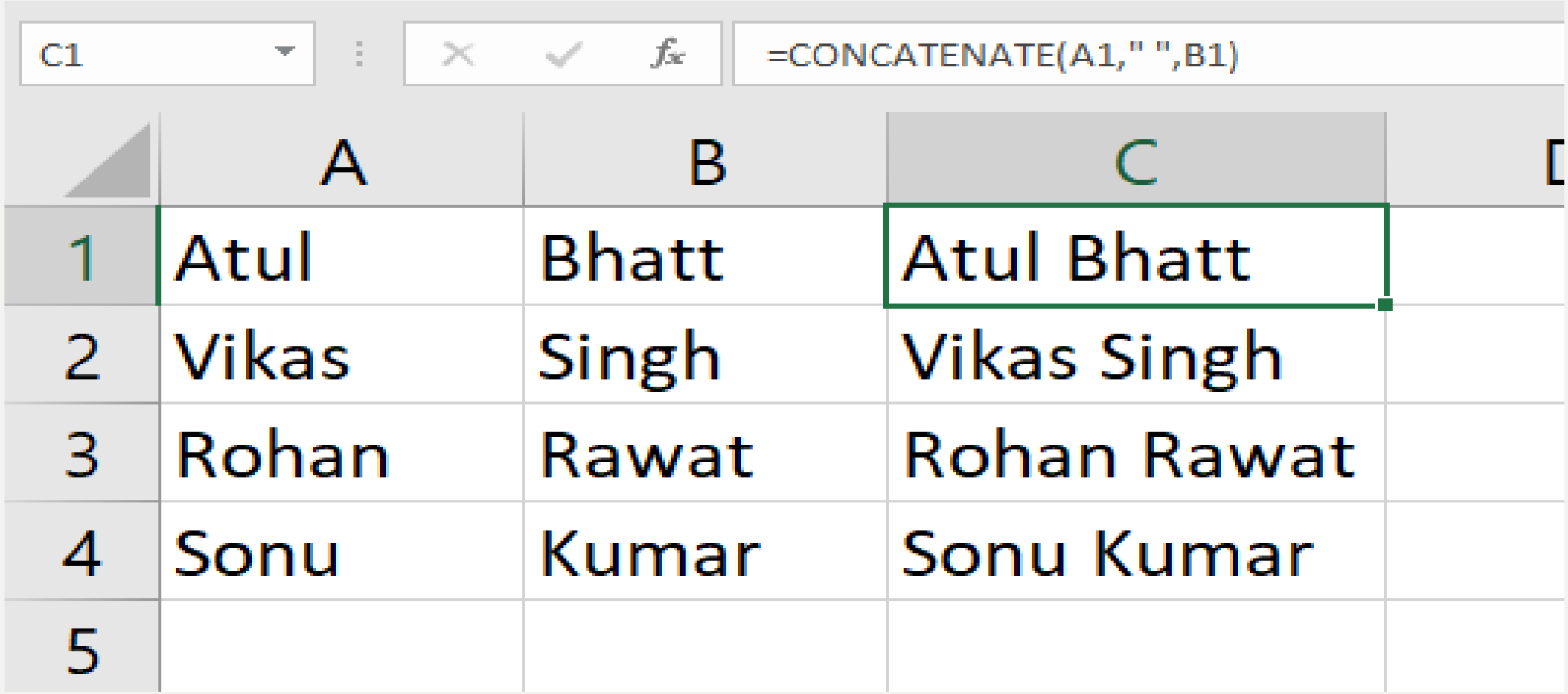
C4

=COUNTIFS(A2:A7,">1/1/1999",B2:B7,"Male")

	A	B	C	D	E	F	G
1	Date	Gender					
2	9/10/1999	Male	How many Males which age is greter then 1999				
3	5/20/2000	Female					
4	5/20/1999	Male	3				
5	5/20/2000	Female					
6	5/20/1999	Female					
7	3/5/1999	Male					

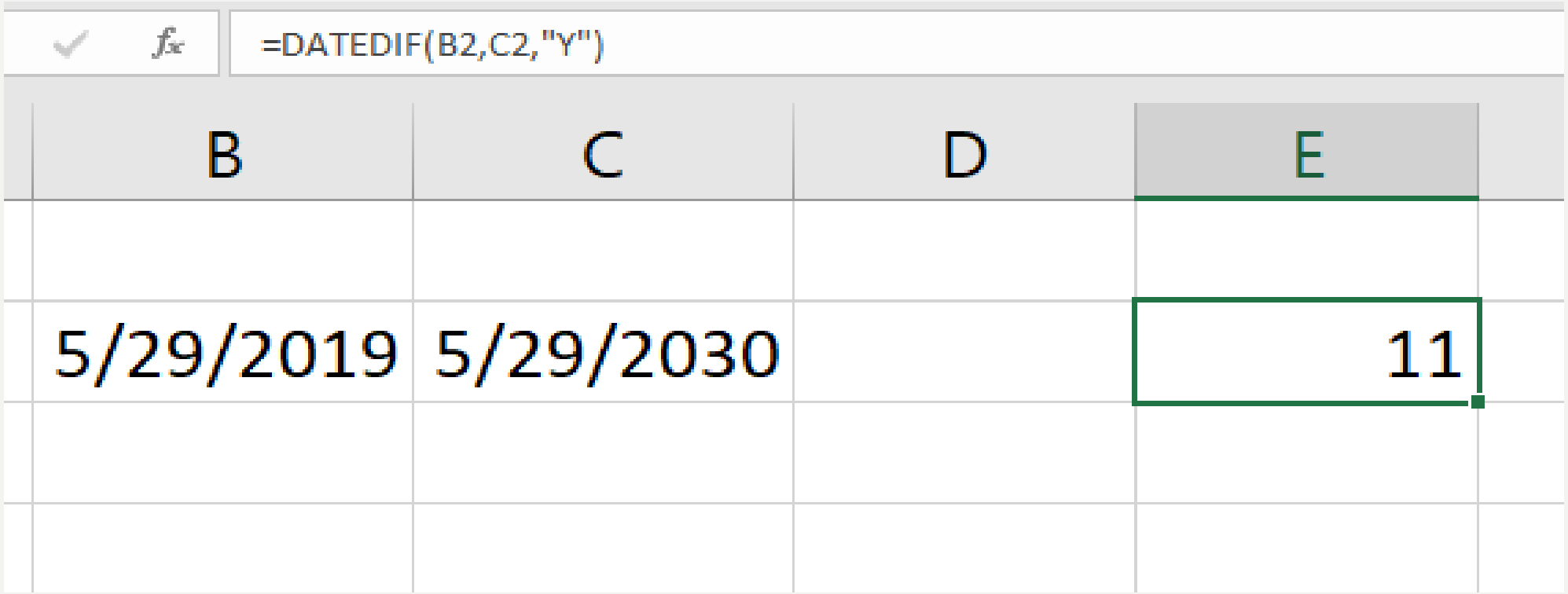
CONCATENATE

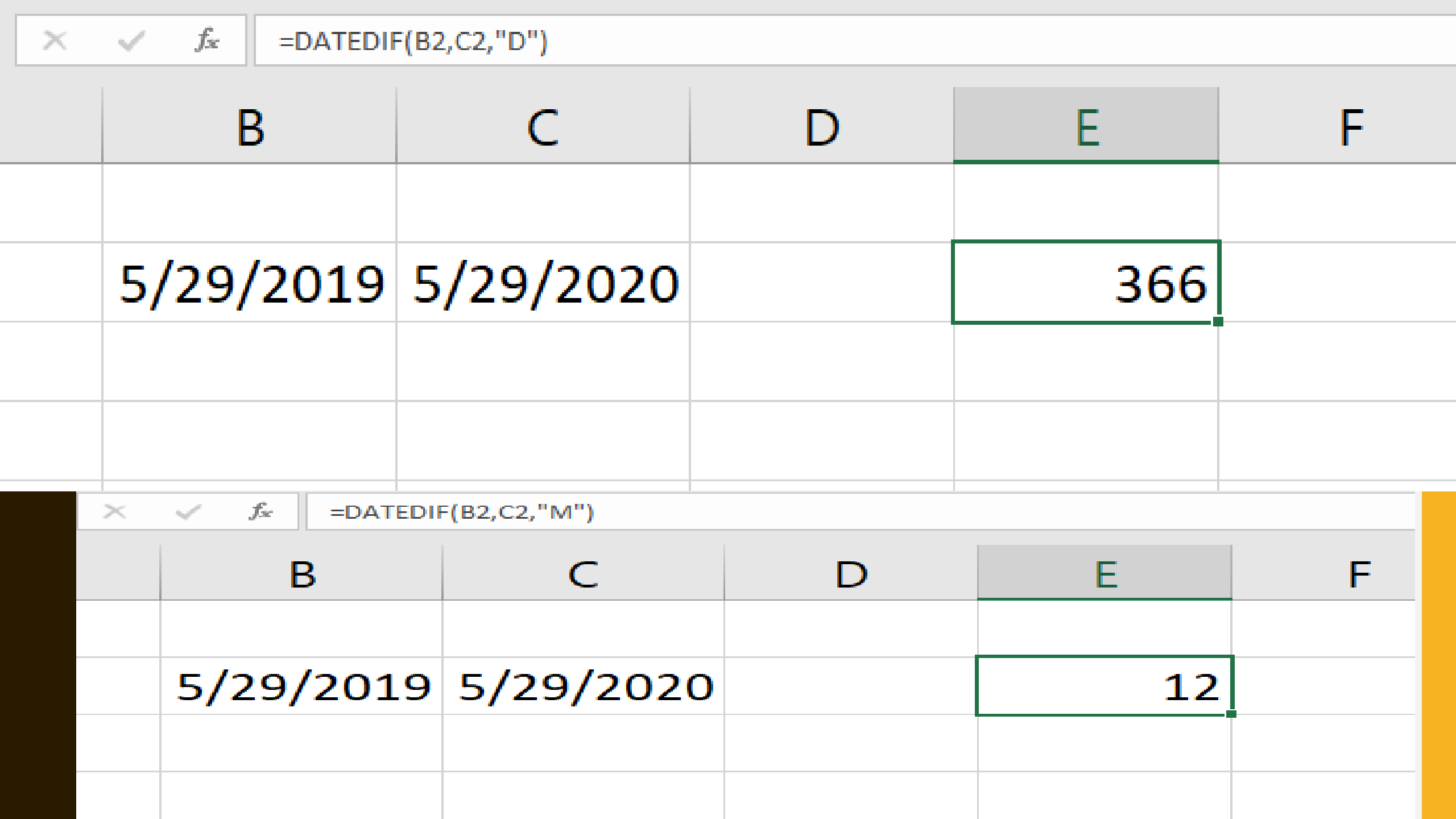
- *Learn various ways to concatenate text strings, cells, ranges, columns and rows in Excel using the CONCATENATE function*



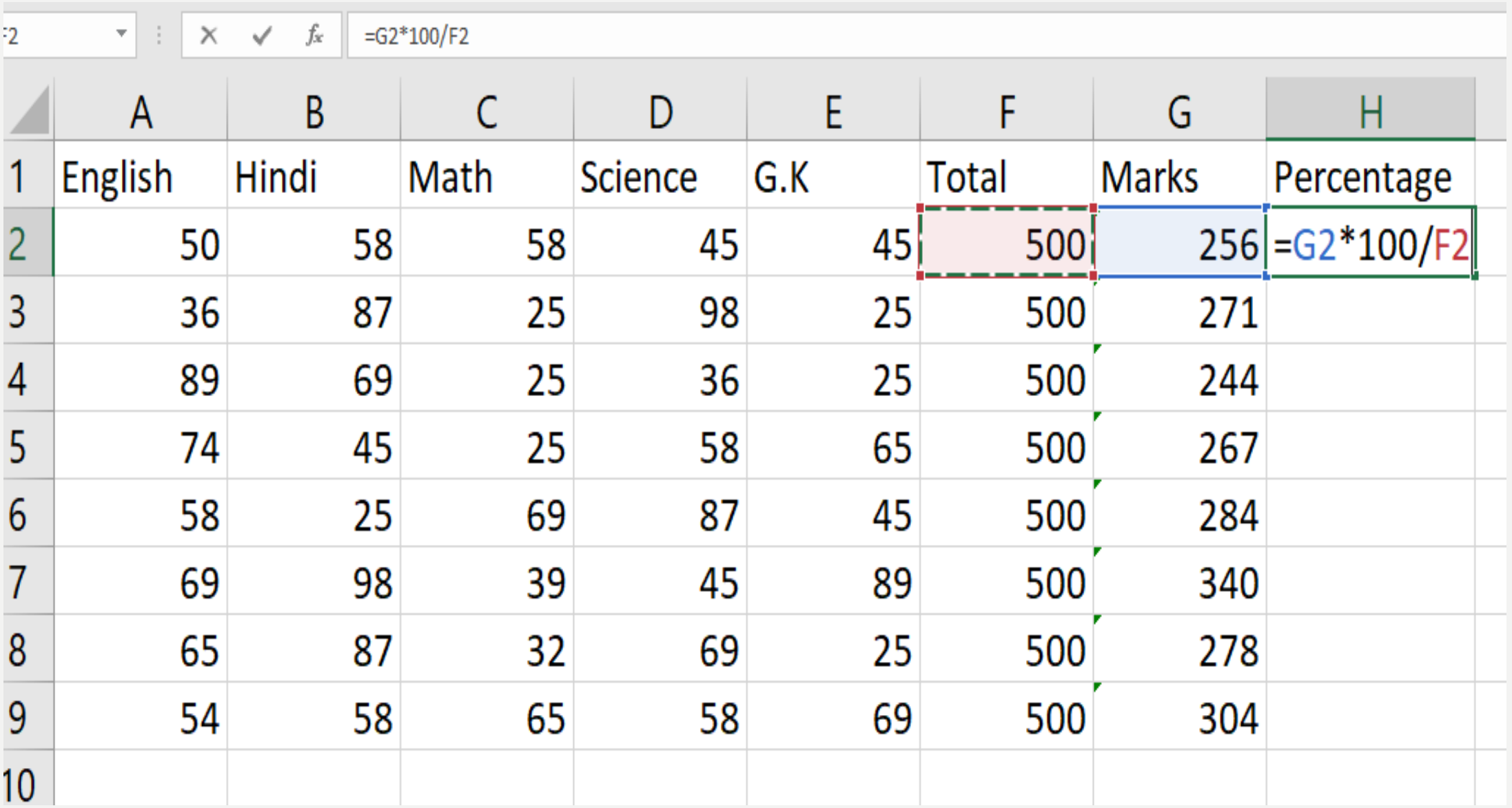
	A	B	C	D
1	CONCATENATE function			
2	Source data		Result	Formula
3	Paul	Smith	Paul Smith	=CONCATENATE(A3, " ", B3)
4				
5	Paul	Smith	Smith, Paul	=CONCATENATE(B5, ", ", A5)
6				
7	Project	2	Project-2	=CONCATENATE(A7, "-", B7)
8				
9	11	22	11/22	=CONCATENATE(A9, "/", B9)
10				
11				
12	"&" operator			
13	Source data		Result	Formula
14	Paul	Smith	Paul Smith	=A14 & " "& B14
15				
16	Paul	Smith	Smith, Paul	=B16 & ", "& A16
17				
18	Project	2	Project-2	=A18 & "-" & B18
19				
20	11	22	11/22	=A20 & "/" & B20

Dates

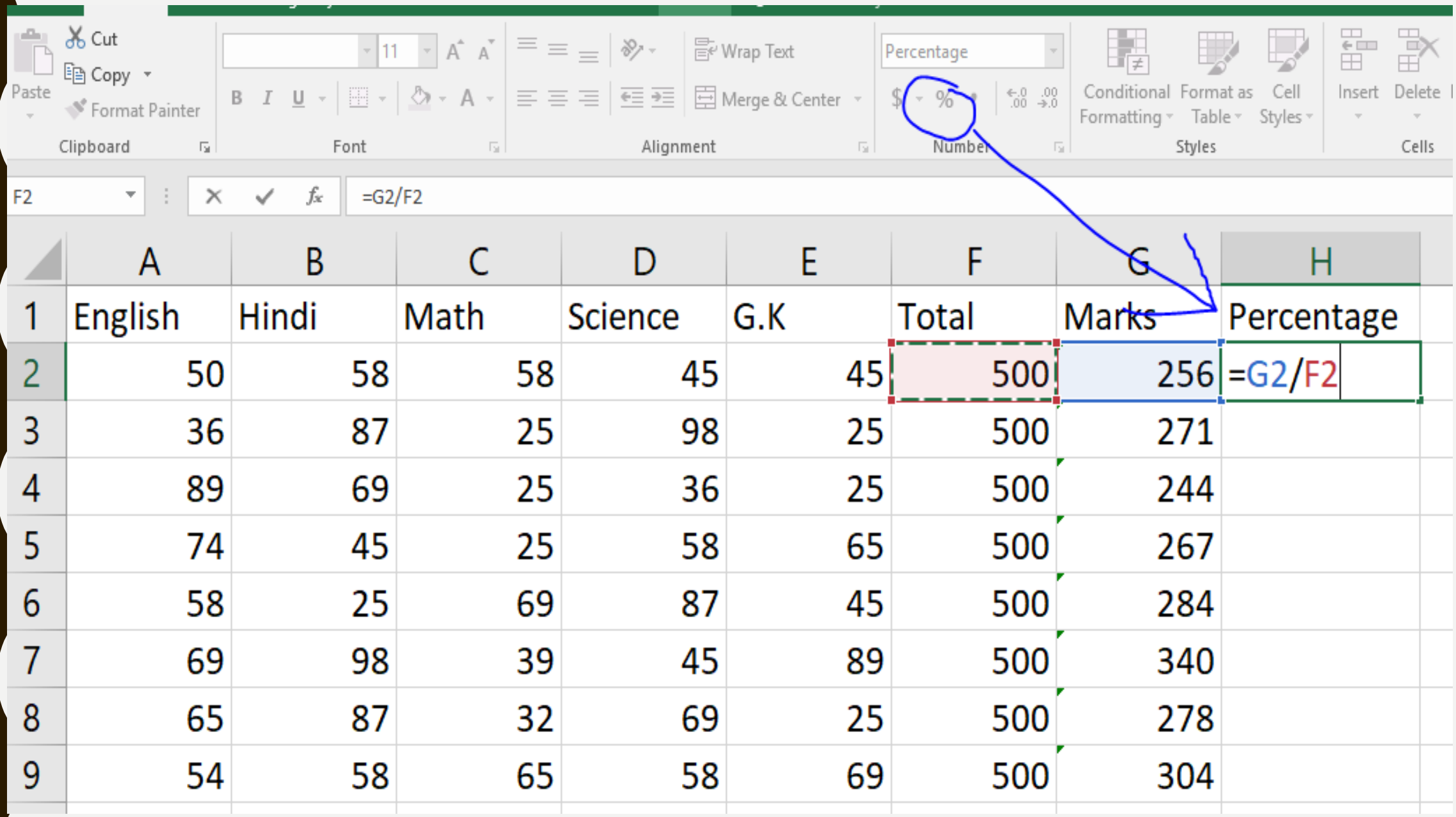



=DATEDIF(B2,C2,"D")
B
C
D
E
F
5/29/2019
5/29/2020
366
=DATEDIF(B2,C2,"M")
B
C
D
E
F
5/29/2019
5/29/2020
12

Percentage



	A	B	C	D	E	F	G	H
1	English	Hindi	Math	Science	G.K	Total	Marks	Percentage
2	50	58	58	45	45	500	256	=G2*100/F2
3	36	87	25	98	25	500	271	
4	89	69	25	36	25	500	244	
5	74	45	25	58	65	500	267	
6	58	25	69	87	45	500	284	
7	69	98	39	45	89	500	340	
8	65	87	32	69	25	500	278	
9	54	58	65	58	69	500	304	
10								


Cut
Copy
Format Painter
Paste
Clipboard
11
Font
Wrap Text
Merge & Center
Alignment
Percentage
Number
Conditional Formatting
Format as Table
Cell Styles
Styles
Insert
Delete
Cells
F2
=G2/F2
A
B
C
D
E
F
G
H
1 English Hindi Math Science G.K Total Marks Percentage
2 50 58 58 45 45 500 256 =G2/F2
3 36 87 25 98 25 500 271
4 89 69 25 36 25 500 244
5 74 45 25 58 65 500 267
6 58 25 69 87 45 500 284
7 69 98 39 45 89 500 340
8 65 87 32 69 25 500 278
9 54 58 65 58 69 500 304

Vlookup

Summary

VLOOKUP is an Excel function to lookup and retrieve data from a specific column in table. The "V" stands for "vertical". Lookup values must appear in the first column of the table, with lookup columns to the right.

Purpose

Lookup a value in a table by matching on the first column

Return value

The matched value from a table.

Syntax

=VLOOKUP (value, table, col_index, [range_lookup])

Arguments

- **value** - The value to look for in the first column of a table.
- **table** - The table from which to retrieve a value.
- **col_index** - The column in the table from which to retrieve a value.
- **range_lookup** - [optional] TRUE = approximate match (default). FALSE = exact match.

G12 =VLOOKUP(F12,A1:J9,2,0)

	A	B	C	D	E	F	G	H	I	J
1	Roll_NO	Name	English	Hindi	Math	Science	G.K	Total	Marks	Percentage
2	101	Abhi	50	58	58	45	45	500	256	51%
3	102	Gogi	36	87	25	98	25	500	271	54%
4	103	Vikas	89	69	25	36	25	500	244	49%
5	104	Priya	74	45	25	58	65	500	267	53%
6	101	Bhanu	58	25	69	87	45	500	284	57%
7	106	Jyoti	69	98	39	45	89	500	340	68%
8	108	Vishal	65	87	32	69	25	500	278	56%
9	109	Mohan	54	58	65	58	69	500	304	61%
10										
11						Roll_no	Name	Percentage		
12						101	Abhi	51%		

Roll_NO	Name	Class
101	Abhi	10th
102	Vikas	10th
103	Sonu	10th
104	Priya	10th
105	Neha	10th
106	Soniya	10th
107	Deepak	10th

Sheet 1

Roll_NO	Class Teacher	Contact Number
101	Bhanu	8898789858
102	Bhanu	7898785858
103	Bhanu	8596857485
104	Bhanu	9825698748
105	Bhanu	9521456987
106	Bhanu	8741256987
107	Bhanu	9857485896

Sheet 2

Roll_NO	Age
101	15
102	14
103	15
104	14
105	15
106	16
107	15

Sheet 3

=VLOOKUP(B4,Sheet1!A1:C8,2,0)

Sheet1	
Roll_No	Name
102	Vikas

Sheet2
Contact_Number
7898785858

Sheet3
Age
14

C11 =VLOOKUP(B11,A3:C8,2,0)

	A	B	C	D	E	F	G	H
1	Table First				Second Table			
2	Roll No	Name	Age		Name	Father Name	Phone Number	Class
3	101	Priya	18		Gogi	Raj Kumar	8978596969	12th
4	102	Soniya	18		Vishal	BrijMohan	7896785885	12th
5	103	Gogi	17		Mohan	Sanju	7458987485	12th
6	104	Vishal	18		Priya	Sachin	9856878965	12th
7	105	Mohan	19		Soniya	Deepak	7485968574	12th
8	106	Sonu	18		Sonu	Gaurav	7856963245	12th
9								
10		Roll-No	Name			Father Name		
11		101	Priya			Sachin		

F11 =VLOOKUP(C11,E3:H8,2,0)

	A	B	C	D	E	F	G	H
1	Table First				Second Table			
2	Roll No	Name	Age		Name	Father Name	Phone Number	Class
3	101	Priya	18		Gogi	Raj Kumar	8978596969	12th
4	102	Soniya	18		Vishal	BrijMohan	7896785885	12th
5	103	Gogi	17		Mohan	Sanju	7458987485	12th
6	104	Vishal	18		Priya	Sachin	9856878965	12th
7	105	Mohan	19		Soniya	Deepak	7485968574	12th
8	106	Sonu	18		Sonu	Gaurav	7856963245	12th
9								
10		Roll-No	Name			Father Name		
11		101	Priya			Sachin		

If Error

C11 =IFERROR(VLOOKUP(B11,A3:C8,2,0),"No Result")

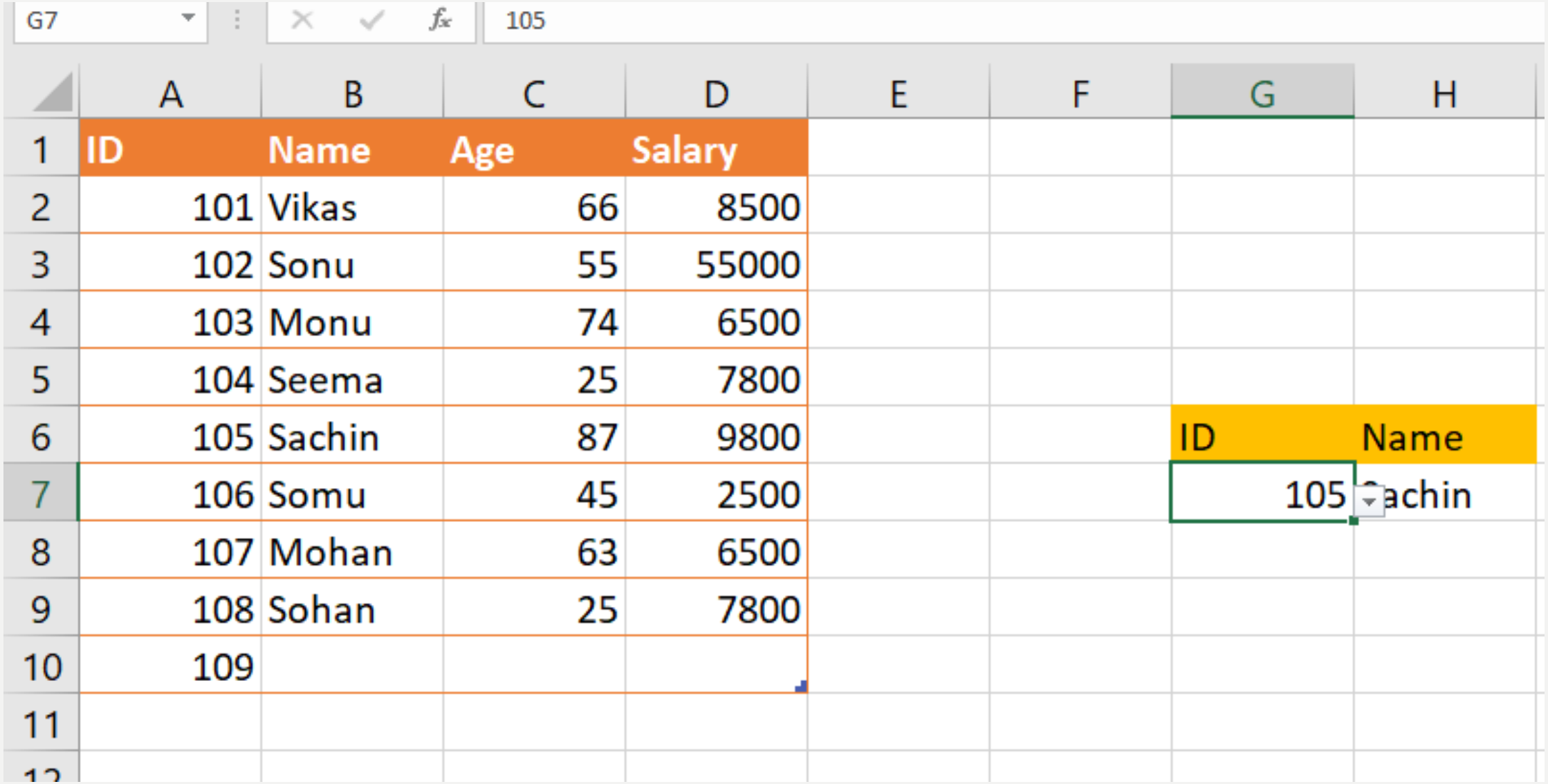
	A	B	C	D	E	F	G	H
1	Table First				Second Table			
2	Roll No	Name	Age		Name	Father Name	Phone Number	Class
3	101	Priya	18		Gogi	Raj Kumar	8978596969	12th
4	102	Soniya	18		Vishal	BrijMohan	7896785885	12th
5	103	Gogi	17		Mohan	Sanju	7458987485	12th
6	104	Vishal	18		Priya	Sachin	9856878965	12th
7	105	Mohan	19		Soniya	Deepak	7485968574	12th
8	106	Sonu	18		Sonu	Gaurav	7856963245	12th
9								
10		Roll-No	Name			Father Name		
11		109	No Result			NoResult		

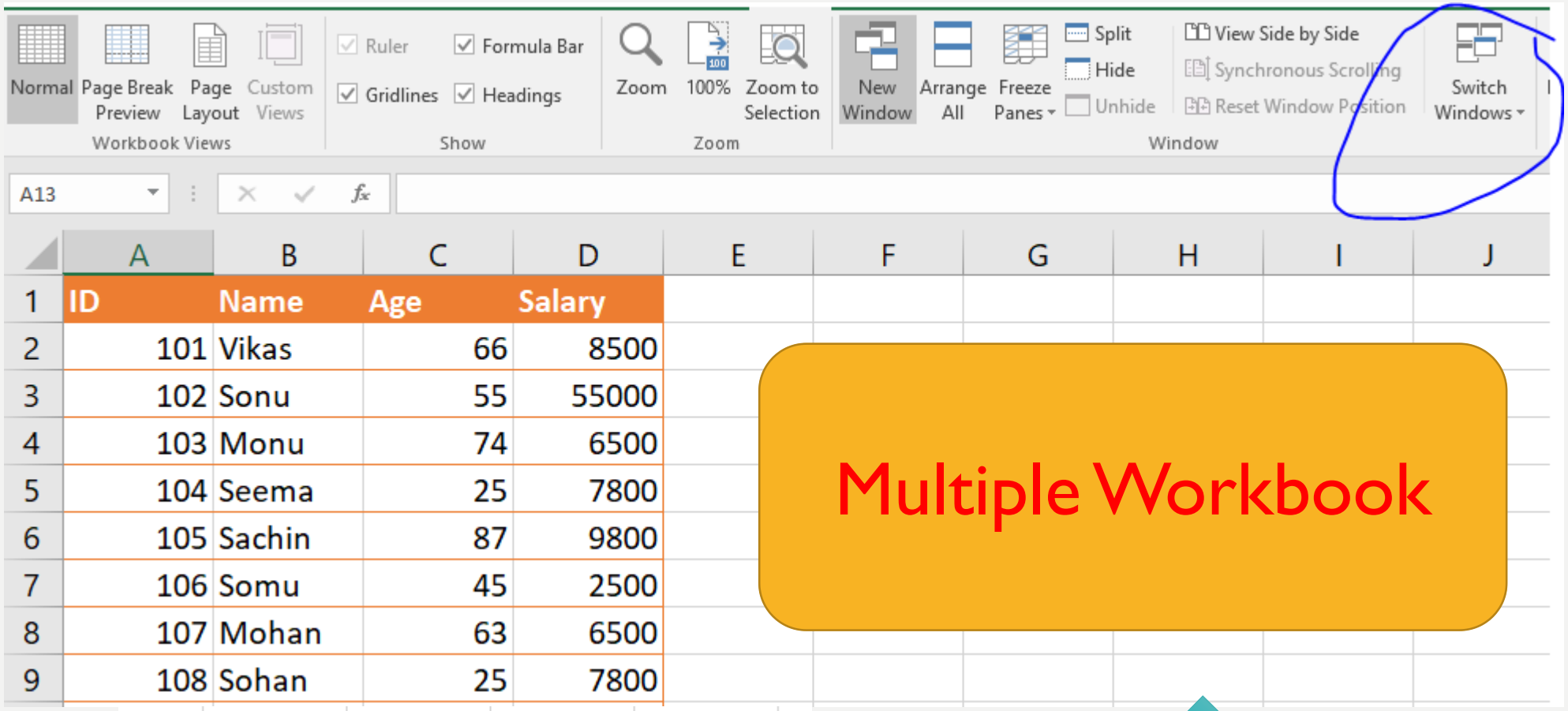
C12 | =VLOOKUP(VLOOKUP(B11,A3:C8,2,0),E3:H8,2,0)

	A	B	C	D	E	F	G	H
1	Table First				Second Table			
2	Roll No	Name	Age		Name	Father Name	Phone Number	Class
3	101	Priya	18		Gogi	Raj Kumar	8978596969	12th
4	102	Soniya	18		Vishal	BrijMohan	7896785885	12th
5	103	Gogi	17		Mohan	Sanju	7458987485	12th
6	104	Vishal	18		Priya	Sachin	9856878965	12th
7	105	Mohan	19		Soniya	Deepak	7485968574	12th
8	106	Sonu	18		Sonu	Gaurav	7856963245	12th
9								
10		Roll-No	Name			Father Name		
11		101	Priya			Sachin		
12		Nesting	Sachin					

Double Vlookup

Dynamically Auto Update





	A	B	C	D
1	ID	Name	Age	Salary
2	101	Vikas	66	8500
3	102	Sonu	55	55000
4	103	Monu	74	6500
5	104	Seema	25	7800
6	105	Sachin	87	9800
7	106	Somu	45	2500
8	107	Mohan	63	6500
9	108	Sohan	25	7800

Multiple Workbook

ID	Name
101	Vikas

Sheet 2

Sheet 1

Multiple Lookup Values

H5 =VLOOKUP(F5&" / "&G5,A1:E9,5,0)

	A	B	C	D	E	F	G	H
1		Name	Father Name	Roll No	Percentage			
2	Abhi / Vishal	Abhi	Vishal	101	59			
3	Sohan / Gaurav	Sohan	Gaurav	102	85			
4	Mohan / Pardeep	Mohan	Pardeep	103	74	Name	Father name	Percentage
5	Sohan / Sachin	Sohan	Sachin	104	95	Bhanu	Harsh	98
6	Bhanu / Sonu	Bhanu	Sonu	105	45			
7	Neha / Dev	Neha	Dev	106	87			
8	Bhanu / Harsh	Bhanu	Harsh	107	98			
9	Soniya / Gautam	Soniya	Gautam	108	65			
10								
11								

I5 =VLOOKUP(G5&" / "&H5&" / "&F5,A1:E9,5,0)

	A	B	C	D	E	F	G	H	I
1		Name	Father Name	Roll No	Percentage				
2	Abhi / Vishal / 101	Abhi	Vishal	101	59				
3	Sohan / Gaurav / 102	Sohan	Gaurav	102	85				
4	Mohan / Pardeep / 103	Mohan	Pardeep	103	74	roll	Name	Father name	Percentage
5	Sohan / Sachin / 104	Sohan	Sachin	104	95	101	abhi	vishal	59
6	Bhanu / Sonu / 105	Bhanu	Sonu	105	45				
7	Neha / Dev / 106	Neha	Dev	106	87				
8	Bhanu / Harsh / 107	Bhanu	Harsh	107	98				
9	Soniya / Gautam / 108	Soniya	Gautam	108	65				
10									
11									
12									

Advanced vlookup

A2 | =B2&"-"&COUNTIF($B$2:B2,B2)

	A	B	C	D	E
1	Subtitute	Name	Product	Items	Amount
2	Abhi-1	Abhi	LED	5	150000
3	Sonu-1	Sonu	LCD	6	250000
4	Mohan-1	Mohan	DVD	8	50000
5	Sachin-1	Sachin	Sound System	7	65000
6	Abhi-2	Abhi	DVD	5	30000
7	Mohan-2	Mohan	Radio	4	4500
8	Pawan-1	Pawan	DVD	6	1000
9	Abhi-3	Abhi	CD	7	1500
10	Pawan-2	Pawan	Radio	8	2500
11	Mohan-3	Mohan	Keyboard	9	6500
12	Sonu-2	Sonu	Mouse	7	2500

D5

=IFERROR(VLOOKUP($D$2&"-"&$C5,hello,COLUMNS($C$3:D4),0),"")

	A	B	C	D	E	F	G
1				Name			
2				Abhi			
3							
4			Subtitute	Name	Product	Items	Amount
5			1	Abhi	LED	5	150000
6			2	Abhi	DVD	5	30000
7			3	Abhi	CD	7	1500
8			4				
9			5				
10			6				
11			7				
12			8				
13			9				

MATCH Function

MATCH is an Excel function used to locate the position of a lookup value in a row, column, or table. MATCH supports approximate and exact matching, and wildcards (* ?) for partial matches. Often, the INDEX function is combined with MATCH to retrieve the value at the position returned by MATCH.

Purpose

Get the position of an item in an array

Syntax

=MATCH (lookup_value, lookup_array, [match_type])

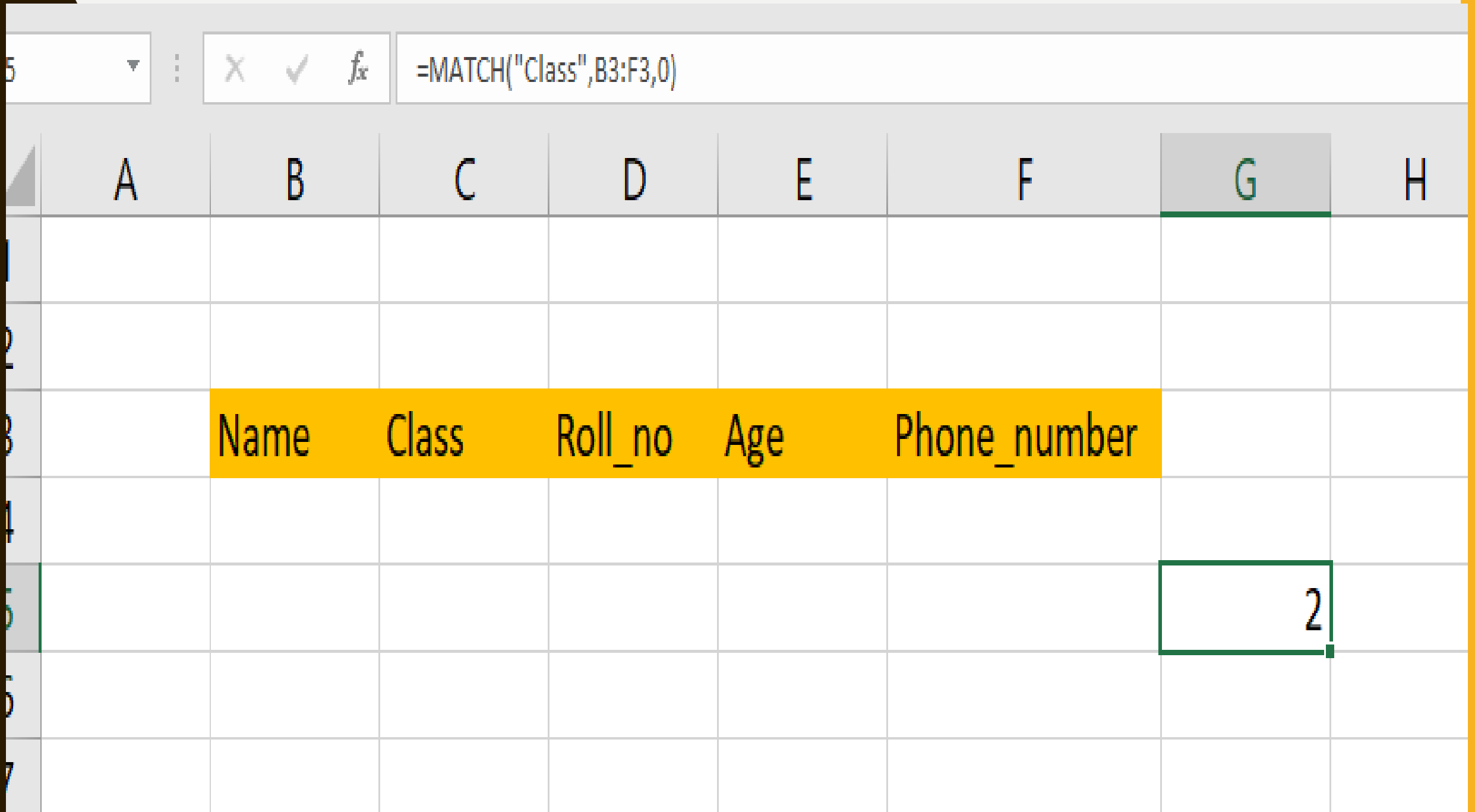
Arguments

- **lookup_value** - The value to match in lookup_array.
- **lookup_array** - A range of cells or an array reference.
- **match_type** - [optional] How to match, specified as -1, 0, or 1. Default is 1.

Match

H3 =MATCH(G3,B2:B9,0)

	A	B	C	D	E	F	G	H
1	ID	Name	Age	Salary				
2	101	Vikas	66	8500			Name	S-no Position
3	102	Sonu	55	55000			Sonu	2
4	103	Monu	74	6500				
5	104	Seema	25	7800				
6	105	Sachin	87	9800				
7	106	Somu	45	2500				
8	107	Mohan	63	6500				
9	108	Sohan	25	7800				
10								
11								


=MATCH("Class",B3:F3,0)
A
B
C
D
E
F
G
H
Name
Class
Roll_no
Age
Phone_number
2

Vlookup With Match Function

I10 =VLOOKUP(H10,A1:F9,MATCH(I9,A1:F1,0),0)

	A	B	C	D	E	F	G	H	I
1	**Name**	**Math**	**English**	**Hindi**	**Science**	**G.K**			
2	Muskan	52	98	58	78	45			
3	Dev	36	85	25	45	25			
4	Sonu	45	74	69	69	36			
5	Mohan	25	69	78	55	54			
6	Vikas	36	45	44	52	69			
7	Bhanu	74	25	58	58	78			
8	Shiva	69	78	25	87	58			
9	Pooja	45	58	69	45	98		**Name**	**G.K**
10								Mohan	54
11									

Lookup Value always in First column

Vlookup Never find value on left side.

Index Function is Solution

INDEX Function

The Excel INDEX function returns the value at a given position in a range or array. You can use index to retrieve individual values or entire rows and columns. INDEX is often used with the MATCH function, where MATCH locates and feeds a position to INDEX.

Syntax

=INDEX (array, row_num, [col_num], [area_num])

Arguments

- **array** - A range of cells, or an array constant.
- **row_num** - The row position in the reference or array.
- **col_num** - [optional] The column position in the reference or array.
- **area_num** - [optional] The range in reference that should be used.

Index Function

F11 =INDEX(A1:D8,2,1)

	A	B	C	D	E	F
1	Emp_id	Name	Age	Salary		
2	1002	Bhanu	52	55000		
3	1003	Mohan	26	25000		
4	1004	Sonu	45	69000		
5	1005	Dev	36	74000		
6	1006	Dhruv	65	25000		
7	1007	Sachin	25	36000		
8	1008	Harry	45	45000		
9						
10				Name	Salary	Emp_id
11				Bhanu	55000	1002

Index With Matching

E13 | =INDEX(A1:E9,MATCH(E11,A1:A9,0),MATCH(E12,A1:E1,0))

	A	B	C	D	E
1	Emp_id	Name	Age	Salary	Department
2	101	Abhi	23	40000	Sales
3	102	Sonu	63	50000	Purchase
4	103	Monu	36	60000	Sales
5	104	Vikas	34	45000	Purchase
6	105	Priya	35	78000	Sales
7	106	Soniya	37	98000	Purchase
8	107	Divya	39	45000	Sales
9	108	Neha	45	52000	Purchase
10					
11				Emp_id	107
12				Name/Department	Department
13				Department	Sales
14					

=G5&"="

HLOOKUP Function

HLOOKUP stands for Horizontal Lookup and can be used to retrieve information from a table by searching a row for the matching data and outputting from the corresponding column. While VLOOKUP searches for the value in a column, HLOOKUP searches for the value in a row.

```
HLOOKUP( value, table, index_number, [approximate_match] )
```

Parameters or Arguments

value

The value to search for in the first row of the *table*.

table

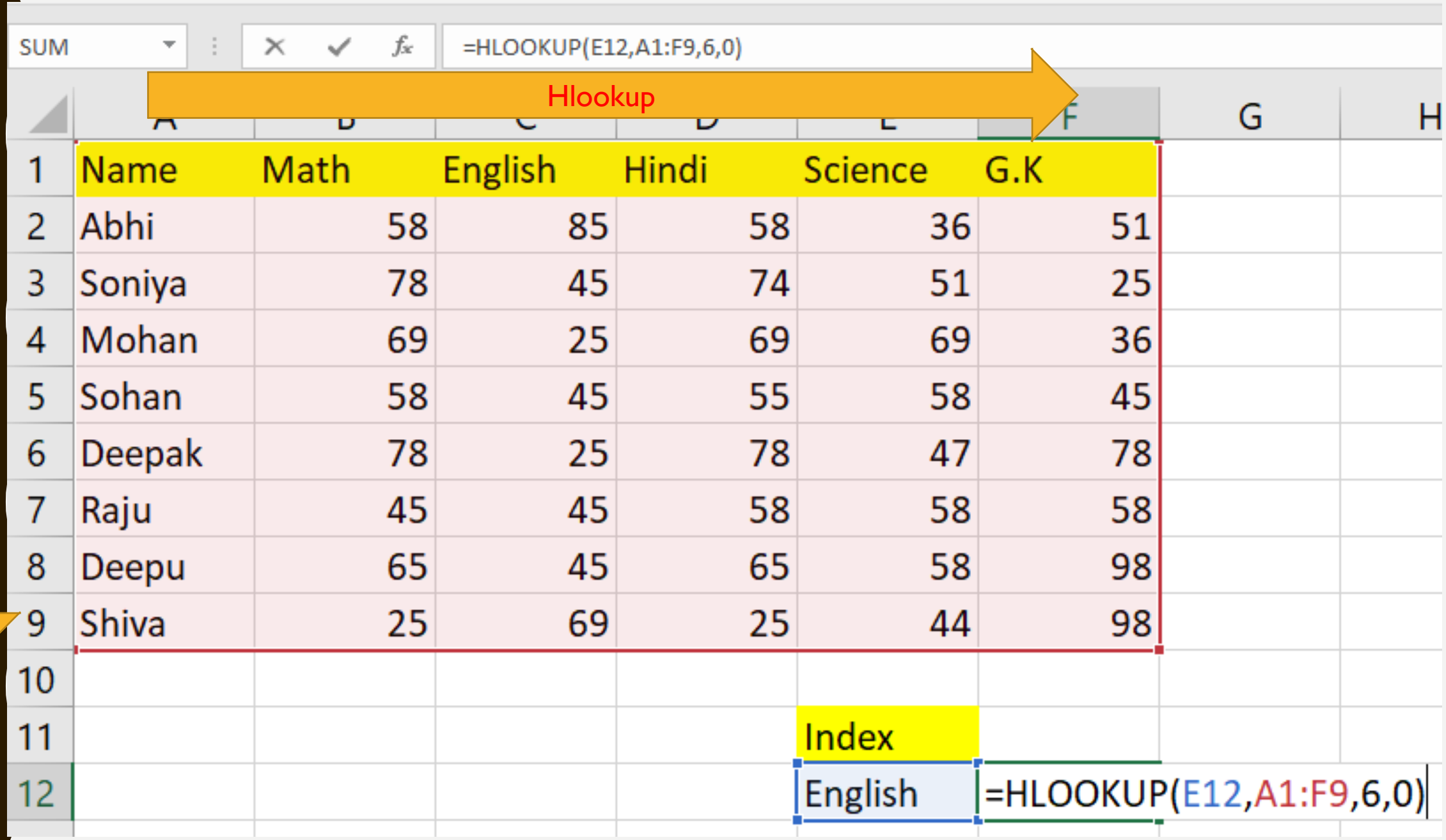
Two or more rows of data that is sorted in ascending order.

index_number

The row number in *table* from which the matching value must be returned. The first row is 1.

approximate_match

Optional. Enter FALSE to find an exact match. Enter TRUE to find an approximate match. If this parameter is omitted, TRUE is the default.


SUM
=HLOOKUP(E12,A1:F9,6,0)
Hlookup
Vlookup
Name Math English Hindi Science G.K
Abhi 58 85 58 36 51
Soniya 78 45 74 51 25
Mohan 69 25 69 69 36
Sohan 58 45 55 58 45
Deepak 78 25 78 47 78
Raju 45 45 58 58 58
Deepu 65 45 65 58 98
Shiva 25 69 25 44 98
Index
English
=HLOOKUP(E12,A1:F9,6,0)

Hlookup With Match

I5 =HLOOKUP(H5,A1:F13,MATCH(I4,A1:A13,0),0)

	A	B	C	D	E	F	G	H	I
1	Sales Months	Anuj	Deepak	Sonu	Mohan	Vikas			
2	January	50000	4500	45000	52000	7400			
3	February	65000	4500	45000	45000	4500			
4	March	45000	3900	69000	25000	65000		Sales man	August
5	April	78000	4100	35000	94000	4500		Sonu	74000
6	May	98000	6900	15000	85000	6500			
7	June	45000	5800	85000	57000	4100			
8	July	74000	7400	95000	52000	0			
9	August	36000	9800	74000	52000	65000			
10	September	74000	7400	35000	14000	50000			
11	October	45000	6500	98000	35000	57000			
12	November	45000	4500	74000	24000	65000			
13	December	65000	5200	65000	45000	50000			

PMT Function

PMT function returns a payment amount, so you can use it to:

- Calculate the monthly payment due on a personal loan
- Calculate the payment due for a loan, with interest compounded bi-annually

The PMT function has the following syntax:

- **PMT(rate, nper, pv)**
  - **Rate** is the interest rate for the loan.
  - **Nper** is the total number of payments for the loan.
  - **Pv** is the present value; also known as the principal.

PMT Function

Car	
Total Price	500000
Down Payment	200000
Loan	300000
Terms of Years	4
Yearly Intrest Rate	10%

Yearly EMI	94641.24	=-pmt(c8,c7,c6)
Semi Yearly EMI	46416.54	=-PMT(C8/2,8,C6)
Monthly EMI	7608.78	=-PMT(C8/12,48,C6)
Weekly EMI	1751.32	=-PMT(C8/52,208,C6)

F5 =AVERAGEIF(A2:A11,E5,C2:C11)

	A	B	C	D	E	F
1	Year	Product Name	Total Sales			
2	2015	LED	1200			
3	2017	Radio	45000			
4	2015	LCD	1200		Year	Average
5	2016	Java Book	2000		2016	1250.00
6	2017	Radio	45000			
7	2017	Keyboard	1400			
8	2018	Mouse	5200			
9	2016	C++ Book	500			
10	2015	LED	20000			
11	2017	RAM	14000			
12						
13						

Search Product Name Behalf Also

H8

=AVERAGEIFS(D2:D12,A2:A12,F8,B2:B12,G8)

	A	B	C	D	E	F	G	H
1	Year	Product Name	Company	Total				
2	2015	LED	LG	25000				
3	2017	Radio	China Product	500				
4	2015	LCD	Samsung	30000				
5	2016	Mobile	Samsung	15000				
6	2017	Radio	China Product	500				
7	2016	Keyboard	Logitech	700		Year	Product name	Average
8	2018	Mouse	DELL	250		2016	Keyboard	583.3333
9	2016	Keyboard	Logitech	550				
10	2015	LED	LG	14000				
11	2017	RAM	HyperX Predator	3500				
12	2016	Keyboard	Logitech	500				
13								

The AVERAGEIFS Function is a Statistical function that calculates the average of all numbers in a given range of cells based on multiple criteria.

Formula

=AVERAGEIFS(average_range, criteria_range1, criteria1, [criteria_range2, criteria2], …)

SUMPRODUCT

The SUMPRODUCT function multiplies ranges or arrays together and returns the sum of products, but SUMPRODUCT is an incredibly versatile function that can be used to count and sum like COUNTIFS or SUMIFS, but with more flexibility. Other functions can easily be used inside SUMPRODUCT to extend functionality even further.

Purpose

Multiply, then sum arrays

Return value

The result of multipled and summed arrays

Syntax

=SUMPRODUCT (array1, [array2], ...)

Arguments

- **array1** - The first array or range to multiply, then add.
- **array2** - [optional] The second array or range to multiply, then add.

E11 =SUMPRODUCT(B2:B8,C2:C8)

	A	B	C	D	E
1	Product Name	Price	Items		
2	LED	19000	3		57000
3	LCD	26000	2		52000
4	DVD	100	8		800
5	CD	100	5		500
6	RAM	4200	4		16800
7	Keyboard	800	3		2400
8	Mouse	250	2		500
9				Total	130000
10					
11				Sumproduct	130000

F2

=SUMPRODUCT(($A$2:$A$13=E2)*$B$2:$B$13,$C$2:$C$13)

	A	B	C	D	E	F
1	Product Name	Price	Items			
2	LED	19000	3		Keyboard	6400
3	LCD	26000	2		Mouse	1250
4	DVD	100	8		LED	97000
5	CD	100	5		LCD	52000
6	RAM	4200	4		DVD	1200
7	Keyboard	800	3		CD	1000
8	Mouse	250	2			
9	LED	20000	2			
10	Mouse	250	3			
11	Keyboard	800	5			
12	DVD	100	4			
13	CD	100	5			

SUBTOTAL

Summary

The Excel SUBTOTAL function returns an aggregate result for supplied values. SUBTOTAL can return a SUM, AVERAGE, COUNT, MAX, and others (see table below), and SUBTOTAL function can either include or exclude values in hidden rows.

Purpose

Get a subtotal in a list or database

Return value

A number representing a specific kind of subtotal

Syntax

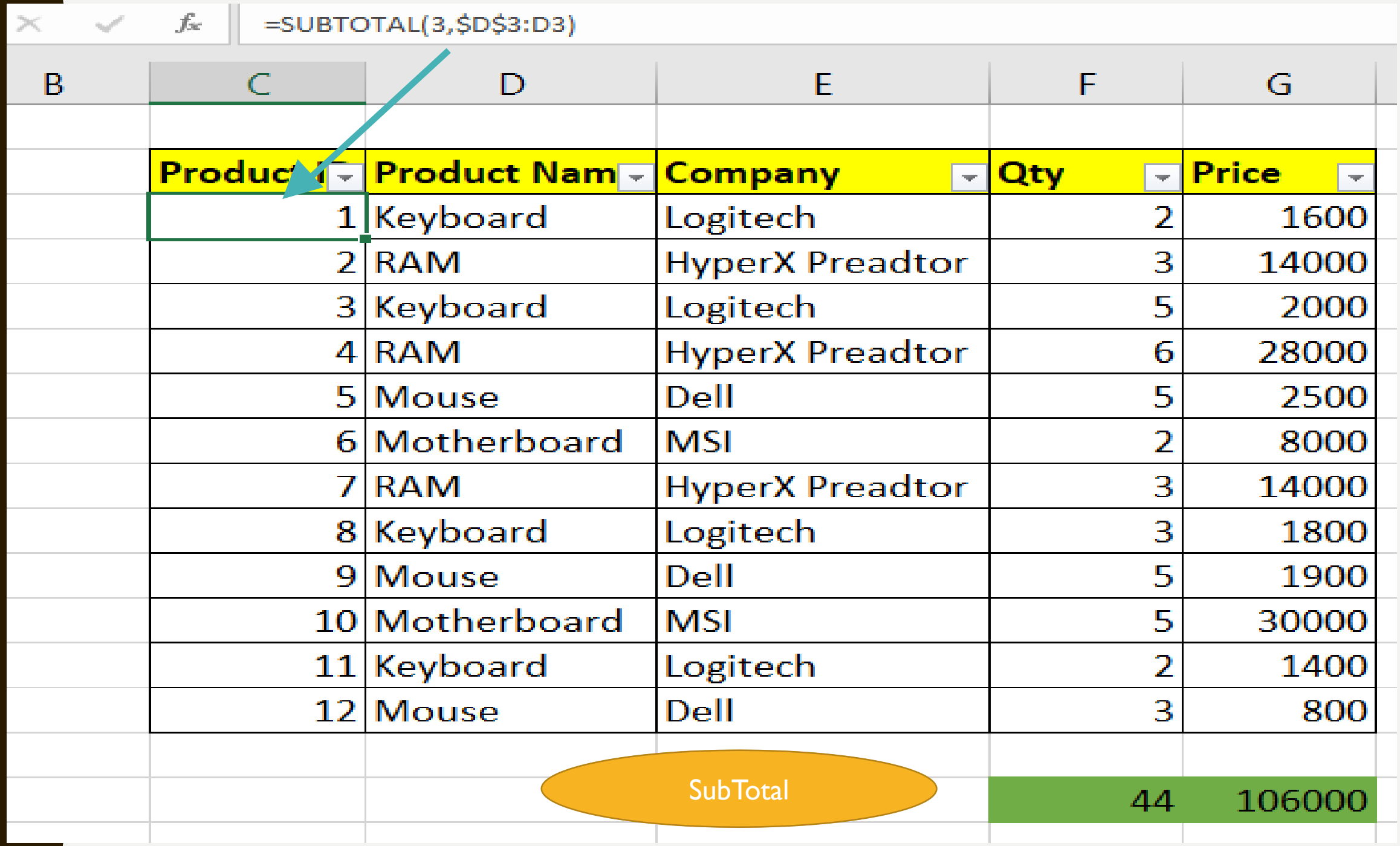
=SUBTOTAL (function_num, ref1, [ref2], ...)

Arguments

•**function_num** - A number that specifies which function to use in calculating subtotals within a list. See table below for full list.

•**ref1** - A named range or reference to subtotal.

•**ref2** - [optional] A named range or reference to subtotal.


=SUBTOTAL(3,$D$3:D3)
B
C
D
E
F
G
Product Nam
Company
Qty
Price
1 Keyboard Logitech 2 1600
2 RAM HyperX Preadtor 3 14000
3 Keyboard Logitech 5 2000
4 RAM HyperX Preadtor 6 28000
5 Mouse Dell 5 2500
6 Motherboard MSI 2 8000
7 RAM HyperX Preadtor 3 14000
8 Keyboard Logitech 3 1800
9 Mouse Dell 5 1900
10 Motherboard MSI 5 30000
11 Keyboard Logitech 2 1400
12 Mouse Dell 3 800
SubTotal
44
106000

D6 | Jan

	A	B	C	D	E	F	G	H
1	**Emp_Name**	**Godown**	**Department**	**Month**	**2017**	**2018**	**Total Sale**	
2	Rohan	East	Cloths	Feb	65000	7800	72800	
3	Vicky	South	Cloths	Feb	15000	69000	84000	
4	Shiva	North	Furniture	Feb	25000	45000	70000	
5				**Feb Total**	105000	121800	226800	
6	Dev	East	Cloths	Jan	45000	45000	90000	
7	Mohan	West	Electronics	Jan	78000	6500	84500	
8	Sohan	North	Foods	Jan	69000	78000	147000	
9	Abhi	East	Furniture	Jan	18000	5800	23800	
10				**Jan Total**	210000	135300	345300	
11	Bhanu	West	Electronics	Mar	85554	69000	154554	
12	Ravi	South	Foods	Mar	36000	32000	68000	
13	Dhruv	West	Furniture	Mar	36000	7800	43800	
14	Neha	West	Furniture	Mar	36000	5200	41200	
15				**Mar Total**	193554	114000	307554	
16				**Grand Total**	508554	371100	879654	

Left

=LEFT(A2,4)

	B
	Left
Atul Bhatt	Atul
Vikas kumar	Vika
Sanjay Singh	Sanj
Mohit Kumar	Mohi
Soniya	Soni

Length

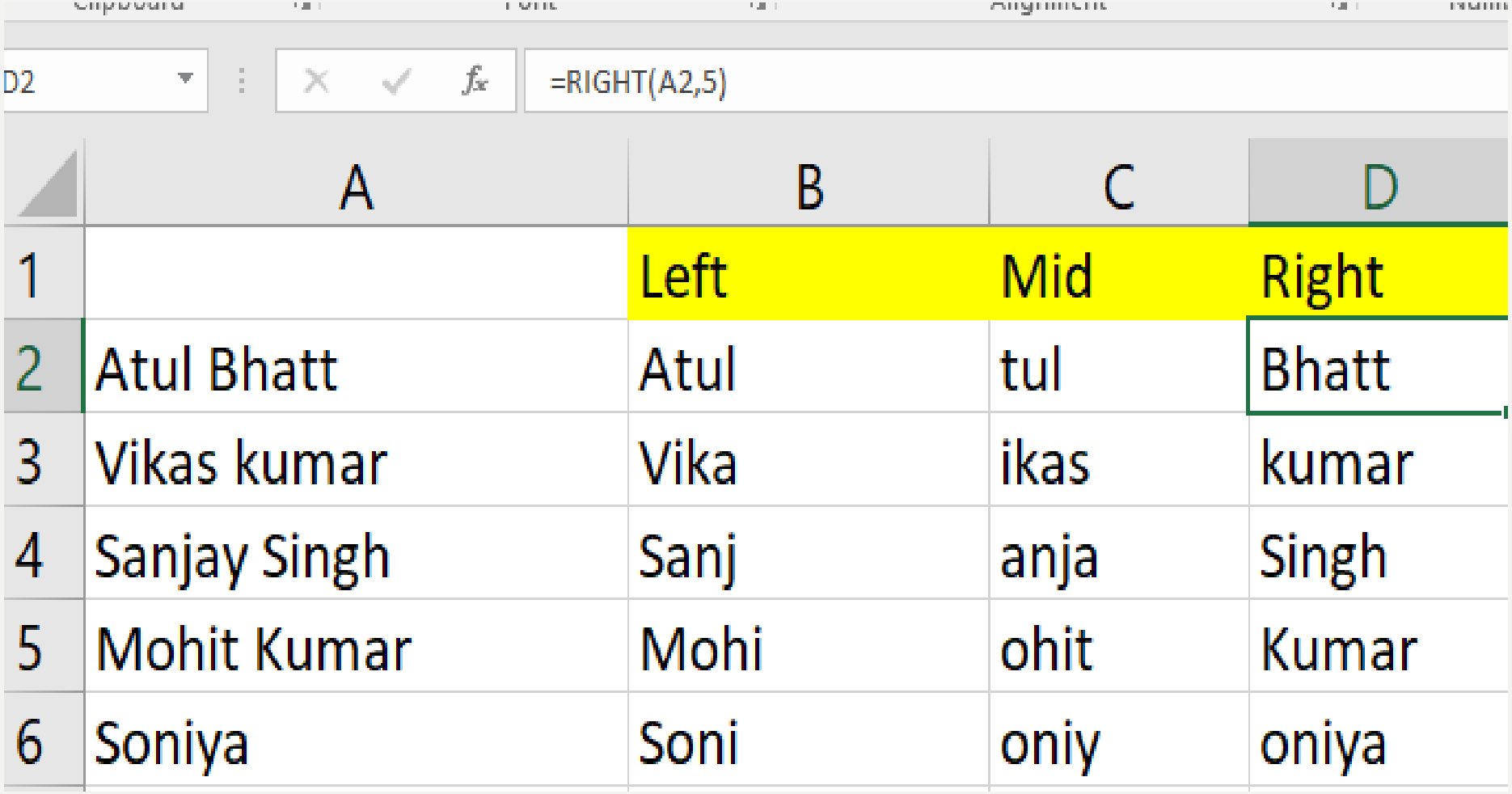
=LEN(A2)

	A	B	C	D	E
1		Left	Mid	Right	Length
2	Atul Bhatt	Atul	tul	Bhatt	10
3	Vikas kumar	Vika	ikas	kumar	11
4	Sanjay Singh	Sanj	anja	Singh	12
5	Mohit Kumar	Mohi	ohit	Kumar	11
6	Soniya	Soni	oniy	oniya	6

MID

=MID(A2,2,4)

	A	B	C
1		Left	Mid
2	Atul Bhatt	Atul	tul
3	Vikas kumar	Vika	ikas
4	Sanjay Singh	Sanj	anja
5	Mohit Kumar	Mohi	ohit
6	Soniya	Soni	oniy


D2
=RIGHT(A2,5)
A
B
C
D
1
Left
Mid
Right
2
Atul Bhatt
Atul
tul
Bhatt
3
Vikas kumar
Vika
ikas
kumar
4
Sanjay Singh
Sanj
anja
Singh
5
Mohit Kumar
Mohi
ohit
Kumar
6
Soniya
Soni
oniy
oniya

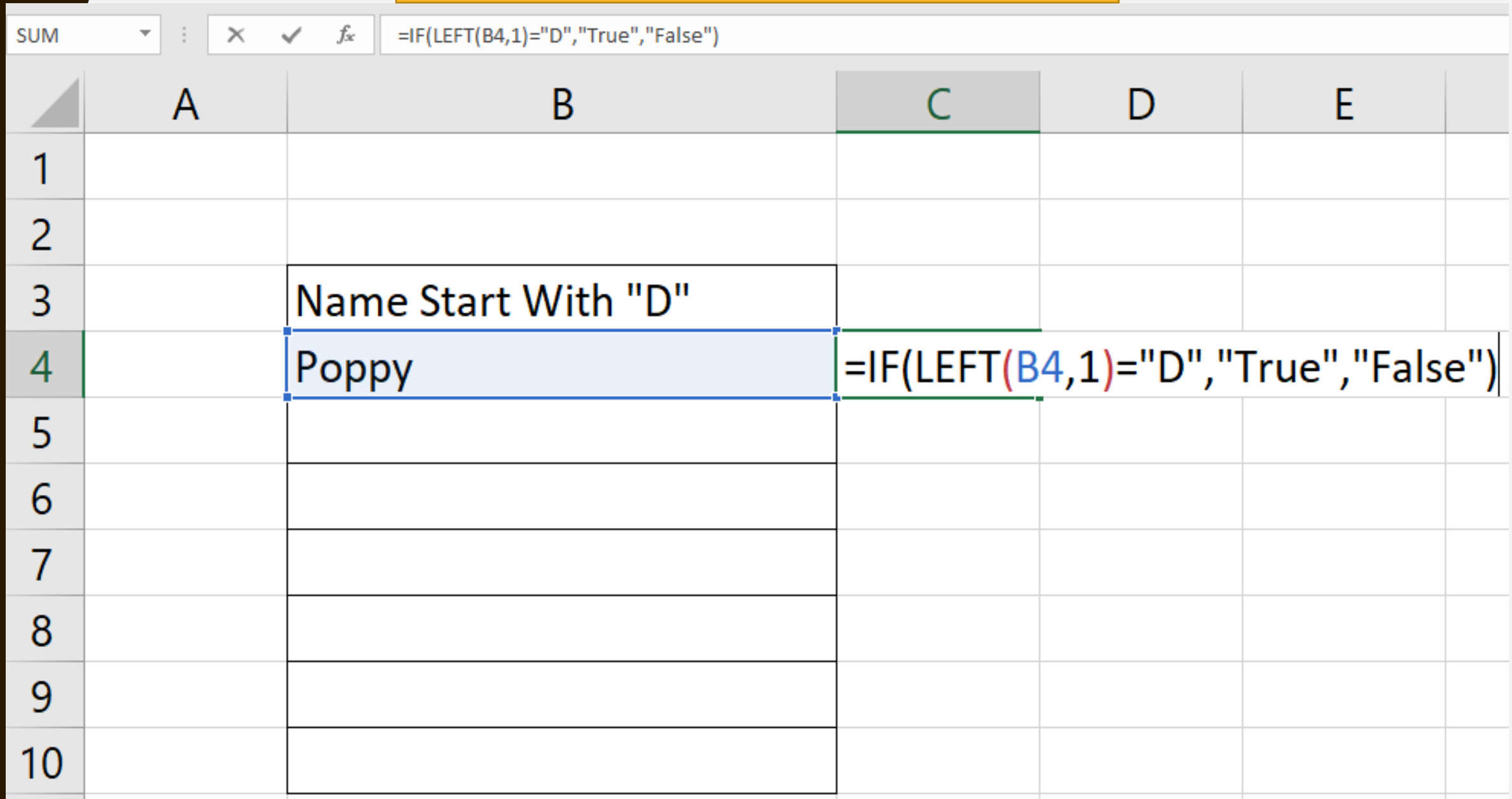
Right

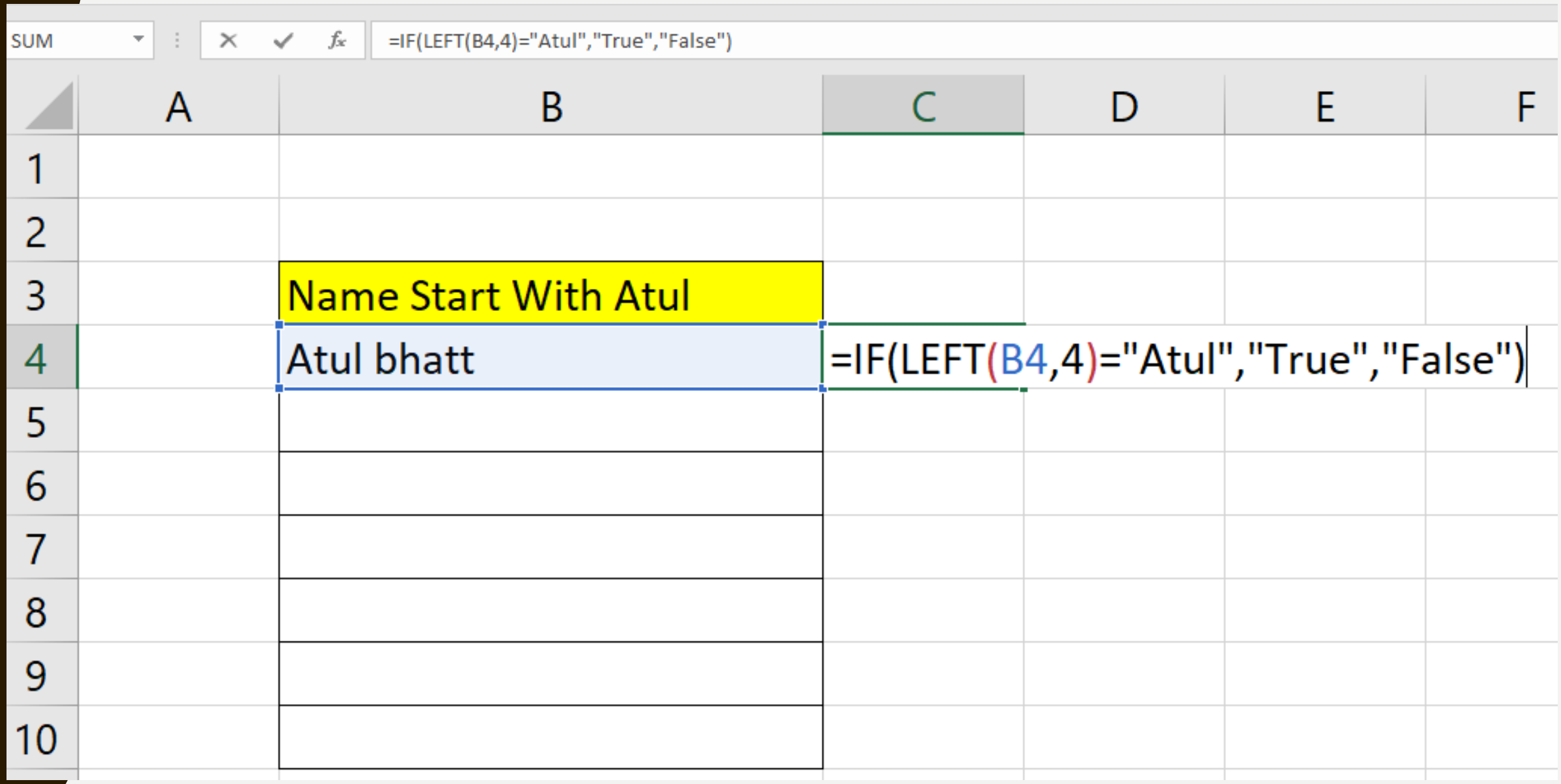
F7 =TRIM(A7)

	A	B	C	D	E	F
1		Left	Mid	Right	Length	Trim
2	Atul Bhatt	Atul	tul	Bhatt	10	
3	Vikas kumar	Vika	ikas	kumar	11	
4	Sanjay Singh	Sanj	anja	Singh	12	
5	Mohit Kumar	Mohi	ohit	Kumar	11	
6	Soniya	Soni	oniy	oniya	6	
7	Bhanu Kumar					Bhanu Kumar

Trim

Data Validation




SUM
=IF(LEFT(B4,4)="Atul","True","False")
A
B
C
D
E
F
1
2
3
Name Start With Atul
4
Atul bhatt
=IF(LEFT(B4,4)="Atul","True","False")
5
6
7
8
9
10

Insert a new worksheet. SHIFT+F11

Move to the next sheet in the workbook. CTRL+PAGE DOWN

Move to the previous sheet in the workbook. CTRL+PAGE UP

Enter current date. CTRL+; (semicolon)

Enter current time. CTRL+SHIFT+: (colon)

Merge Cells ALT+H+M

- **Ctrl+N**: Create a new workbook
- **Ctrl+O:** Open an existing workbook
- **Ctrl+S:** Save a workbook
- **F12:** Open the Save As dialog box
- **Ctrl+W:** Close a workbook
- **Ctrl+F4:** Close Excel
- **F4:** Repeat the last command or action. For example, if the last thing you typed in a cell is “hello,” or if you change the font color, clicking another cell and pressing F4 repeats that action in the new cell.
- **Shift+F11:** Insert a new worksheet
- **Ctrl+Z:** Undo an action
- **Ctrl+Y:** Redo an action
- **Ctrl+F2:** Switch to Print Preview

- **F1:** Open the Help pane
- **Alt+Q:** Go to the “Tell me what you want to do” box
- **F7:** Check spelling
- **F9:** Calculate all worksheets in all open workbooks
- **Shift+F9:** Calculate active worksheets
- **Alt or F10:** Turn key tips on or off
- **Ctrl+F1:** Show or hide the ribbon
- **Ctrl+Shift+U:** Expand or collapse the formula bar
- **Ctrl+F9:** Minimize the workbook window
- **F11**: Create a bar chart based on selected data (on a separate sheet)
- **Alt+F1:** Create an embedded bar chart based on select data (same sheet)
- **Ctrl+F:** Search in a spreadsheet, or use Find and Replace
- **Alt+F:** Open the File tab menu

- **Alt+N:** Open the Insert tab
- **Alt+P:** Go to the Page Layout tab
- **Alt+M:** Go to the Formulas tab
- **Alt+A:** Go to the Data tab
- **Alt+R:** Go to the Review tab
- **Alt+W:** Go to the View tab
- **Alt+X:** Go to the Add-ins tab
- **Alt+Y:** Go to the Help tab
- **Ctrl+Tab:** Switch between open workbooks
- **Shift+F3:** Insert a function
- **Alt+F8:** Create, run, edit, or delete a macro
- **Alt+F11:** Open the Microsoft Visual Basic For Applications Editor
- **Alt+H:** Go to the Home tab