

# **EXCEL DATABASE FUNCTIONS CHEATSHEET**



Video & Practice File: https://bit.ly/excel-db-functions

1	DS		unc	tior	Sing	glo	e filter crit	eria	
	Syntax	DSUM(data	base, fie	eld, <mark>crite</mark>	eria)				
=D:	SUM(Dat	aTable[#A	11],"Am	ount",	\$H\$5:\$H	\$6	5) <b></b>		
A	В	С	D	E	F	G	н	1	J
		D-t-			A				

4	Туре	Date	Invoice	Name	Amount	Single Criteri	a 🛛			
5	Level 1	1/28/2021	595	Poole	8,000	Туре				
6	Level 1	2/3/2021	600	Davis	6,000	Level 1				
7	Level 1	5/24/2021	607	Dune	6,000					
8	Level 2	1/19/2021	591	Bryant	34,970	DSUM	DCOUNT	DAVERAGE	DMAX	DMIN
9	Level 2	2/25/2021	592	Blythe	25,196	20,000	) 3	6,667	8,000	6,000
10	Level 2	5/28/2021	569	Porter	24,914					

All functions share the same syntax: Simply replace DSUM with DCOUNT or DAVERAGE etc. to change the aggregation method.

# **DSUM Function:** Multiple OR criteria on the same filed

	DS	iUM(Dat	aTable[#A	11],"An	ount",	\$T\$5:\$	ST:	\$7)				
	A	В	С	D	E	F	G	Т	U	V	W	Х
4		Туре	Date	Invoice	Name	Amount			Multiple O	R Criteria - S	ame Field	
5		Level 1	1/28/2021	595	Poole	8,000		Name				
6		Level 1	2/3/2021	600	Davis	6,000		Poole				
7		Level 1	5/24/2021	607	Dune	6,000		Porter				
8		Level 2	1/19/2021	591	Bryant	34,970						
9		Level 2	2/25/2021	592	Blythe	25,196		DSUM	DCOUNT	DAVERAGE	DMAX	DMIN
10		Level 2	5/28/2021	569	Porter	24,914		32,914	2	16,457	24,914	8,000

Add each OR criteria on a new row: Database functions have a built-in functionality to consider each criteria on a new row as OR criteria

# **DSUM Function:** Multiple OR & AND criteria

	=D	SUM(Dat	taTable[##	All],"A	mount"	<b>,</b> \$Z\$5:\$	AB	\$7)				
	A	В	С	D	E	F	G	Z	AA	AB	AC	AD .
4		Туре	Date	Invoice	Name	Amount		Μι	ltiple AND OR	Criteria		
5		Level 1	1/28/2021	595	Poole	8,000		Туре	Date	Date		
6		Level 1	2/3/2021	600	Davis	6,000		Level 1	>=01/01/2021	<=03/31/2021		
7		Level 1	5/24/2021	607	Dune	6,000		Level 2	>=01/01/2021	<=03/31/2021		
8		Level 2	1/19/2021	591	Bryant	34,970						
9		Level 2	2/25/2021	592	Blythe	25,196		DSUM	DCOUNT	DAVERAGE	DMAX	DMIN
10		Level 2	5/28/2021	569	Porter	24,914		74,166	4	18,542	34,970	6,000

**DSUM Function:** Multiple AND criteria

A   B   C   D   E   F   G   N   O   P   Q     4   Type   Date   Invoice   Name   Amount   Multiple AND Criteria   Image: Amount of the state of the st						P\$6)	,\$N\$5:\$K	mount"	A11],"A	taTable[#4	SUM(Dat	(=D
5 Level 1 1/28/2021 595 Poole 8,000 Type Date Date   6 Level 1 2/3/2021 600 Davis 6,000 Level 1 >=01/01/2021 <=03/31/2021   7 Level 1 5/24/2021 607 Dune 6,000 Evel 1 Dune 6,000 Evel 1 Evel 2 1/19/2021 591 Bryant 34,970 Evel 2 Evel 2 1/19/2021 591 Event Eve	R	Q	Р	0	N	GΜ	F	E	D	С	В	A
6 Level 1 2/3/2021 600 Davis 6,000 Level 1 >=01/01/2021 <=03/31/2021   7 Level 1 5/24/2021 607 Dune 6,000 Level 1 >=01/01/2021 <=03/31/2021   8 Level 2 1/19/2021 591 Bryant 34,970 Level 1 Level 2 Level 2 Level 2 Level 2 1/19/2021 S91 State Level 3			iteria	ultiple AND Cr	L N		Amount	Name	Invoice	Date	Туре	4
7   Level 1   5/24/2021   607   Dune   6,000     8   Level 2   1/19/2021   591   Bryant   34,970			Date	Date	Туре		8,000	Poole	595	1/28/2021	Level 1	5
8 Level 2 1/19/2021 591 Bryant 34,970			<=03/31/2021	>=01/01/2021	Level 1		6,000	Davis	600	2/3/2021	Level 1	6
							6,000	Dune	607	5/24/2021	Level 1	7
9 Level 2 2/25/2021 592 Blythe 25,196 DSUM DCOUNT DAVERAGE DMAX							34,970	Bryant	591	1/19/2021	Level 2	8
	DMIN	DMAX	DAVERAGE	DCOUNT	DSUM		25,196	Blythe	592	2/25/2021	Level 2	9
10 Level 2 5/28/2021 569 Porter 24,914 14,000 2 7,000 8,000	6,000	8,000	7,000	2	14,000		24,914	Porter	569	5/28/2021	Level 2	10

Add multiple AND criteria on the same row: Database functions have a built-in functionality to consider multiple criteria on the same row as AND criteria

# **DSUM Function:** Multiple OR criteria on multiple fields

A	В	С	D	E	F	G	AF	AG	AH	AI	AJ	invoices where type
	Туре	Date	Invoice	Name	Amount		Multip	e OR Criteria	a - Different	Field		= "Level 1" regardless of name
	Level 1	1/28/2021	595	Poole	8,000		Туре	Name				
	Level 1	2/3/2021	600	Davis	6,000		Level 1					OR (+)
	Level 1	5/24/2021	607	Dune	6,000			Blythe				
	Level 2	1/19/2021	591	Bryant	34,970							Criteria 2: Include a
	Level 2	2/25/2021	592	Blythe	25,196		DSUM	DCOUNT	DAVERAGE	DMAX	DMIN	invoices where Nam
	Level 2	5/28/2021	569	Porter	24,914		45,196	4	11,299	25,196	6,000	= "Blythe", regardles

Database functions can process multiple OR criteria on multiple fields.

# **DSUM Function:** Using Wildcards

A B C D E F G AR AS AT	AU AV
4 Type Date Invoice Name Amount Wildcards	( Includes a
5 Level 1 1/28/2021 595 Poole 8,000 Name	invoices where Name starts
6 Level 1 2/3/2021 600 Davis 6,000 B*	the letter B
7 Level 1 5/24/2021 607 Dune 6,000	sums up the

Combine OR & AND criteria: Database functions will follow the row rules and combine multiple OR & AND criteria.

## DGET Function: Extract a single value matching your criteria

=	DG	ET(Dat	aTable[#A	11],"Am	iount",	AX5:AX6	)	5	
4	A	В	С	D	E	F	G	AX	ł
4		Туре	Date	Invoice	Name	Amount		DGET	j
5		Level 1	1/28/2021	595	Poole	8,000		Invoice	1
6		Level 1	2/3/2021	600	Davis	6,000		595	
7		Level 1	5/24/2021	607	Dune	6,000			1
8		Level 2	1/19/2021	591	Bryant	34,970			I
9		Level 2	2/25/2021	592	Blythe	25,196		DGET	
10		Level 2	5/28/2021	569	Porter	24,914		8000	

=D	G	ET(Data	Table[#Al	1],"Amc	ount",/	AZ5:AZ6)	-	-
4	A	В	С	D	E	F	G	AZ
4		Туре	Date	Invoice	Name	Amount		DGET
5		Level 1	1/28/2021	595	Poole	8,000		Туре
6		Level 1	2/3/2021	600	Davis	6,000		Level 1
7		Level 1	5/24/2021	607	Dune	6,000		
8		Level 2	1/19/2021	591	Bryant	34,970		
9		Level 2	2/25/2021	592	Blythe	25,196		DGET
10		Level 2	5/28/2021	569	Porter	24,914		#NUM!

**#NUM!**: If more than one record matches the criteria, DGET returns the #NUM! error. **#VALUE!**: If no record matches the criteria, DGET returns the #VALUE! error.

#### Level 2 1/19/2021 591 Bryant 34,970 8 amounts. Level 2 2/25/2021 592 Blythe 25,196 DSUM DCOUNT DAVERAGE DMAX DMIN 9 Level 2 5/28/2021 569 10 Porter 24,914 60,166 30,083 34,970 2 25,196

Database functions are compatible with wildcard characters, such as \* and ? symbols

#### Why use Database functions?

- 1. Same, simple syntax for all functions
- 2. Overcomes limitation of OR criteria for SUMIFS, COUNTIFS etc.
- 3. Work with both multiple AND & OR criteria, or any combination thereof
- 4. Criteria is clearly visible in plain English
- 5. The criteria table can house formulas i.e., links to other cells, drop down lists etc.

## Try them all

DSUM, DAVERAGE, DCOUNT, DCOUNTA, DMAX, DMIN, DVAR, DSTDEV, DPRODUCT, DGET

### **Key Considerations**

- Requires data in a tabular  $\checkmark$ layout
- The 'Field' argument can be the  $\mathbf{\mathbf{\nabla}}$ column name or the column number
- The criteria table is not case- $\checkmark$ sensitive





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