



BATCH : BATCH 47 DATA SCIENCE
LESSON : GOOGLE SHEETS
DATE : 20.12.2021
SUBJECT : BASIC FUNCTIONS





Google
Sheets



- Genel Tanıtım
- Temel Fonksiyonlar
- Orta ve İleri Seviye Fonksiyonlar
- Çizelgeler ve Grafikler, Veri Doğrulama
- Dinamik Modeller

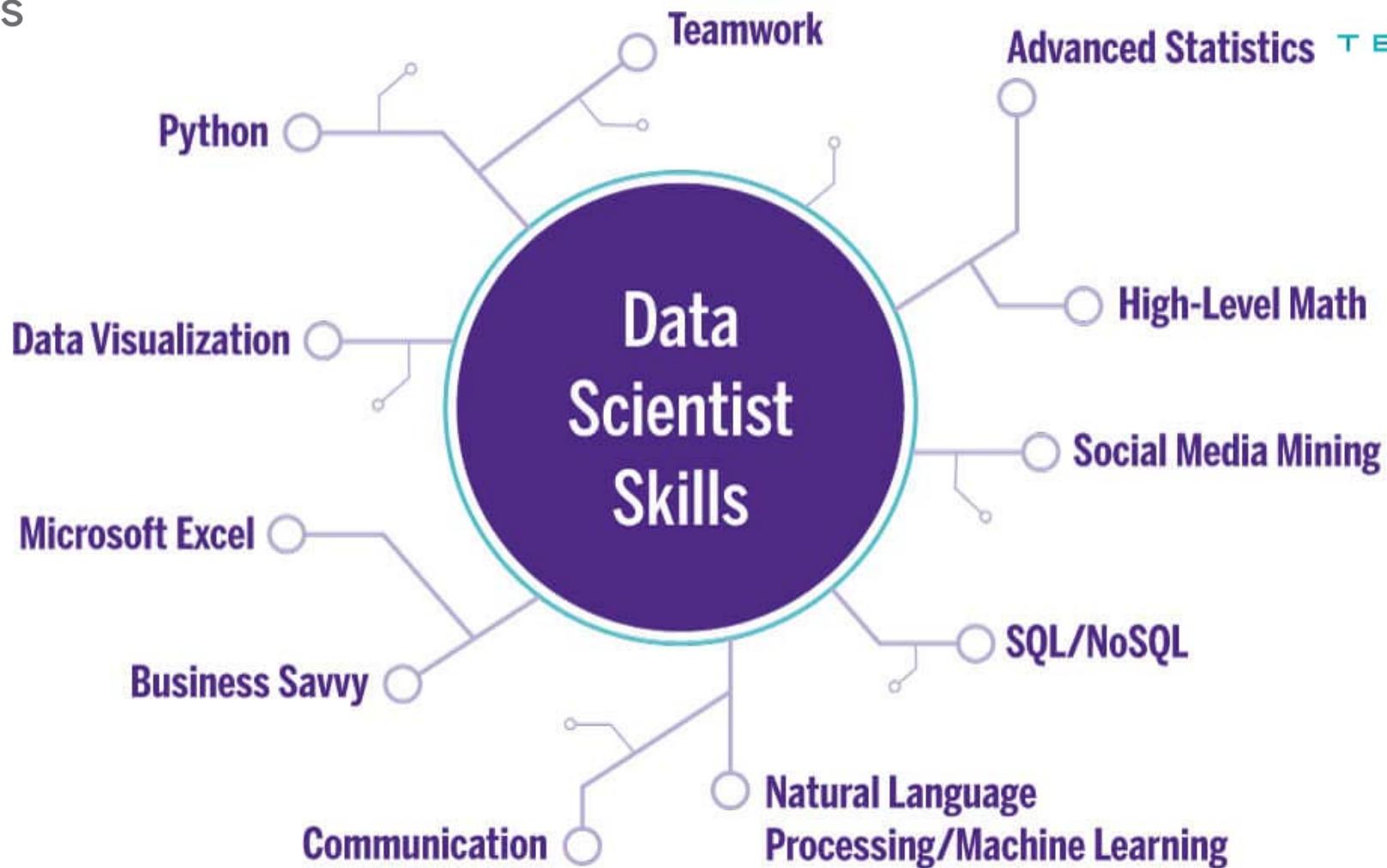


Google
Sheets

Python live in Excel and Csv File



TECHPROED

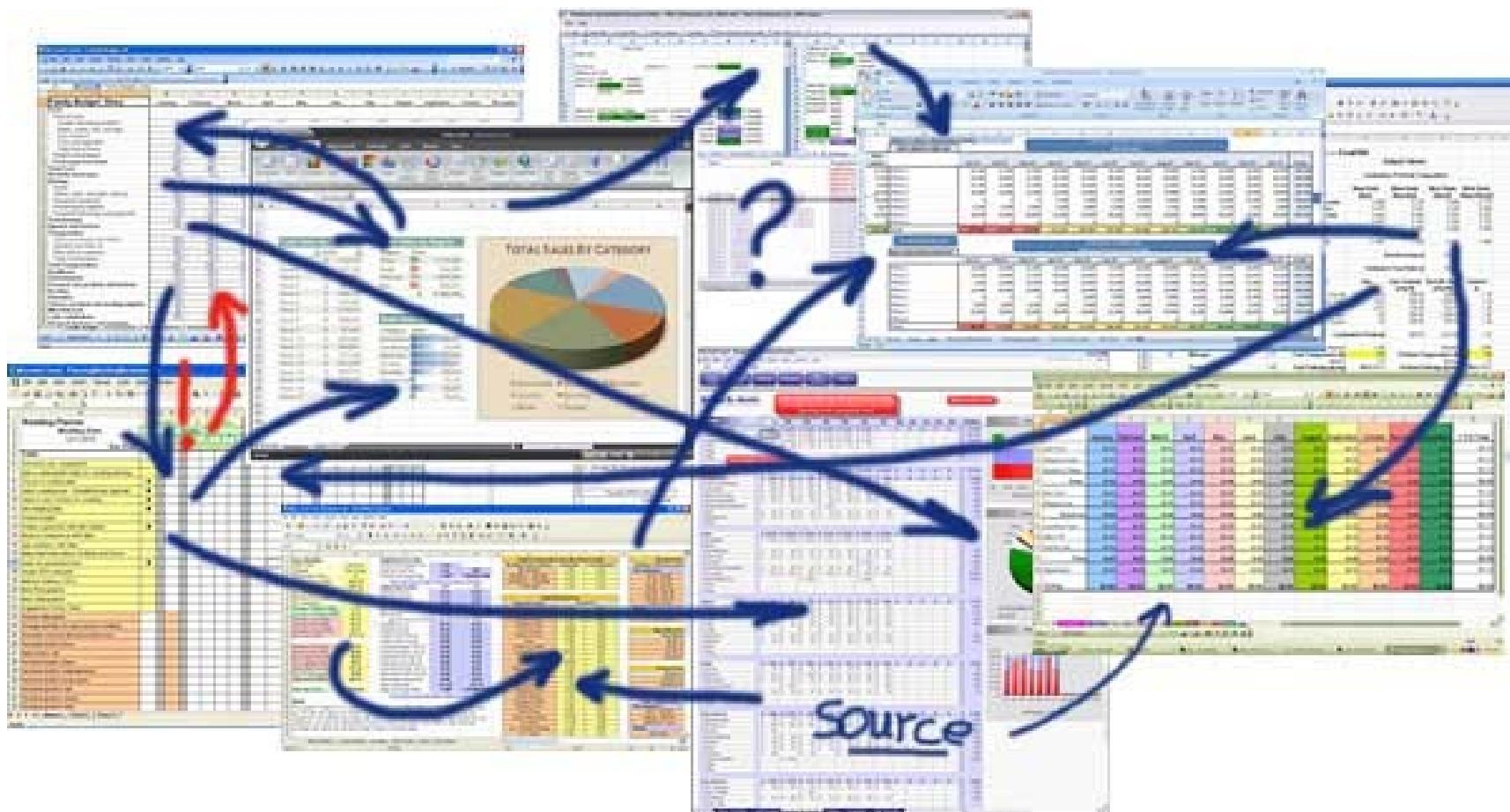




Google
Sheets



TECHPROED





Google
Sheets

FREE

Google  

Google Sheets



VS



Microsoft Excel





Google
Sheets

VS

Excel





Google
Sheets



TECHPROED





Google
Sheets

USER FRIENDLY

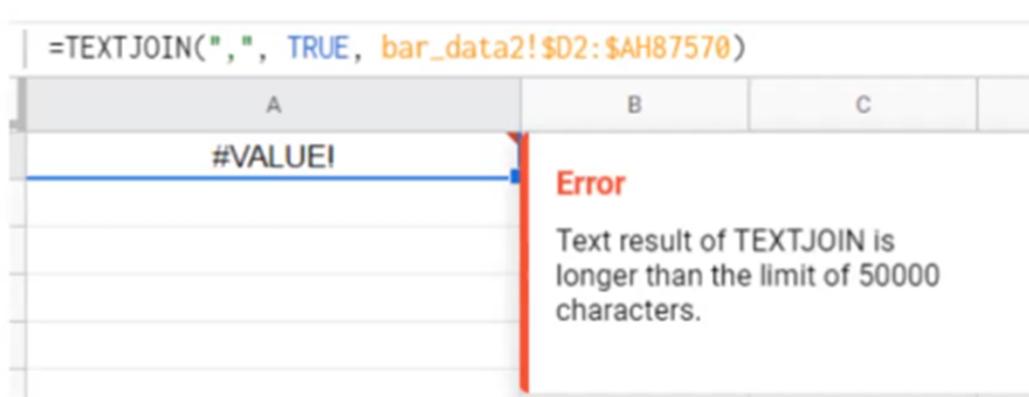


- ❖ It's a web-based spreadsheet that you can use anywhere—no more forgetting your spreadsheet files at home.
- ❖ It works from any device, with mobile apps for iOS and Android along with its web-based core app.
- ❖ Google Sheets is free, and it's bundled with Google Drive, Docs, and Slides to share files, documents, and presentations online.
- ❖ You can download add-ons, create your own, and write custom code.
- ❖ It's online, so you can gather data with your spreadsheet automatically and do almost anything you want, even when your spreadsheet isn't open.

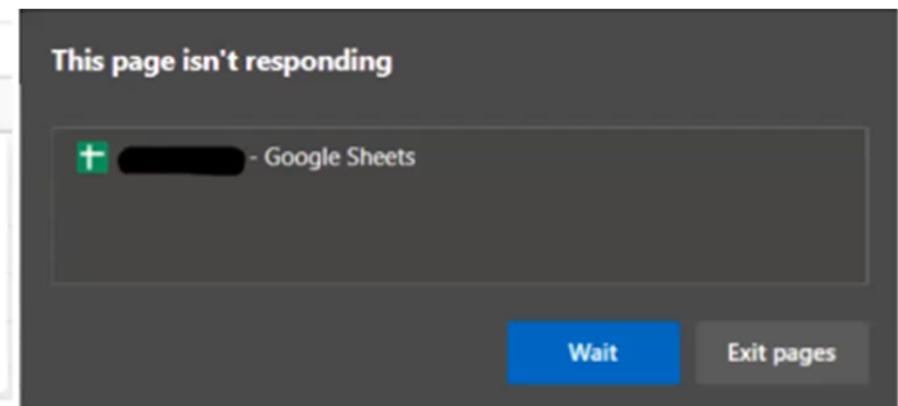
Google Sheets in Limitleri

Spreadsheets

- Up to 5 million cells or 18,278 columns (column ZZZ) for spreadsheets that are created in or converted to Google Sheets.
- Up to 5 million cells or 18,278 columns for spreadsheets imported from Microsoft Excel. The limits are the same for Excel and CSV imports.
- If any one cell has more than 50,000 characters, that single cell will not be uploaded.



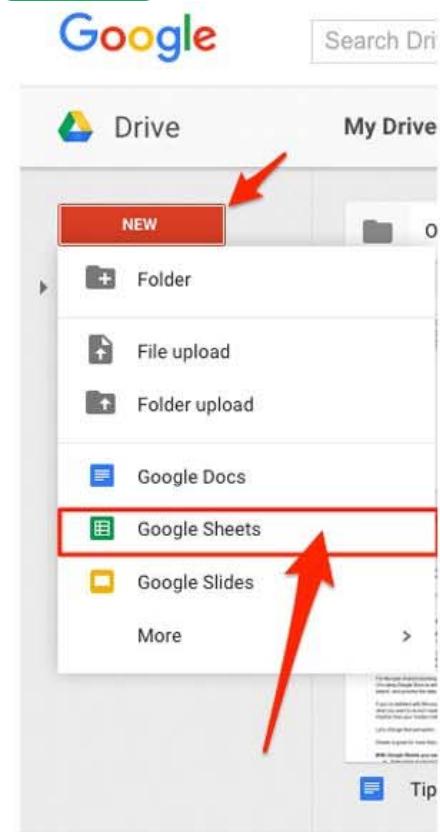
A screenshot of a Google Sheets spreadsheet. The formula bar shows the formula =TEXTJOIN(", ", TRUE, bar_data2!\$D2:\$AH87570). In cell A1, there is an error message "#VALUE!". To the right of the cell, a red vertical line points down to a tooltip that says "Error" and "Text result of TEXTJOIN is longer than the limit of 50000 characters."



<https://support.google.com/drive/answer/37603?hl=en>



Google
Sheets

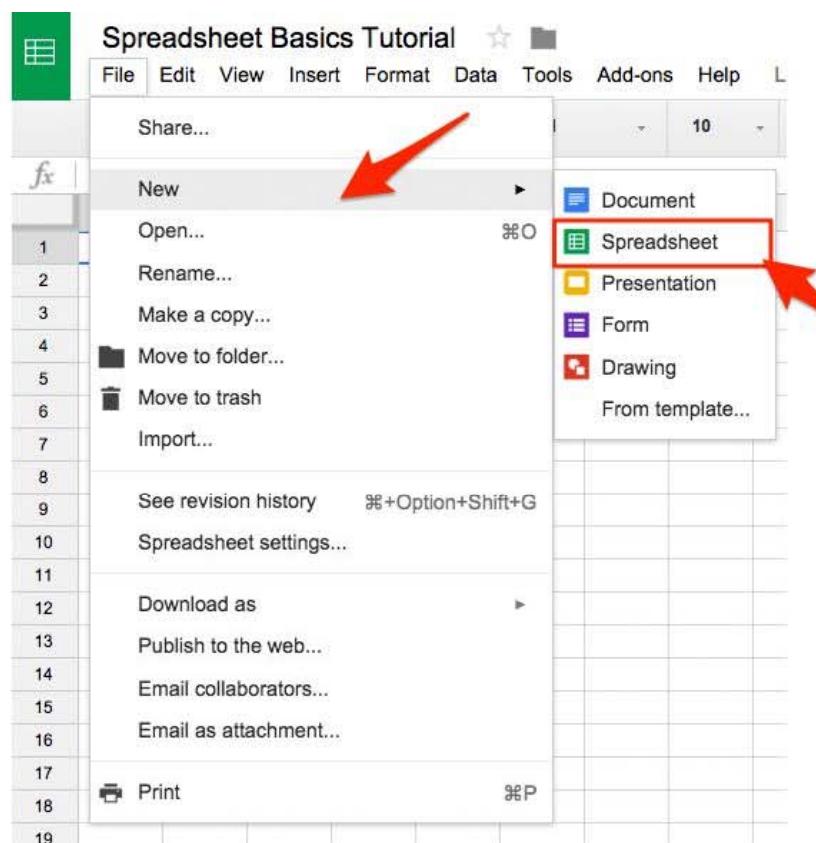


1

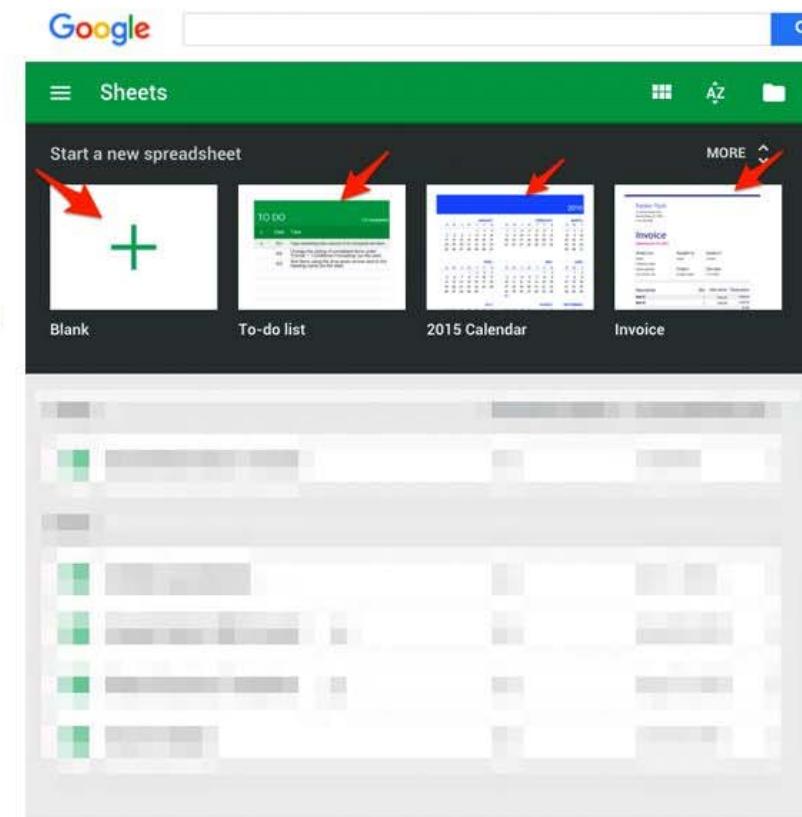


TECHPROED

HOW TO ACCESS



2



3



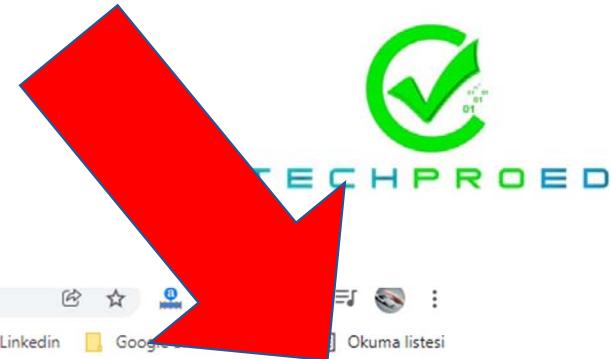
TECHPROED





Google Sheets

HOW TO ACCESS



Inbox (370)

Compose

Primary

Social

Promotions (24 new)

Mentioned by Mohammad Rez...

TurkNet KOBİ (Ad) 100Mbps'ye kadar internet - 129₺'ye Hepsi Bir Arada 100 Mbps'ye Kadar İnternet

Turing.com (Ad) Remote American Software Developer Jobs - High salary. Full time jobs. Work R...

LinkedIn Bu hafta 2 aramada göründünüz - LinkedIn'e son kez geldiğinizden bu yana işte

LinkedIn 1 kişi sizi fark etti - Profilinize kimlerin baktığını görün

Meetup The keys to community success - Save your seat at Meetup Live

LinkedIn Bu hafta 1 aramada göründünüz - LinkedIn'e son kez geldiğinizden bu yana işte

LinkedIn 1 kişi sizi fark etti - Profilinize kimlerin baktığını görün

Instagram meaid_forum, see Fatma Yalçın, Ümrان Demir Buldu and more in your feed - Fo...

LinkedIn 1 kişi sizi fark etti - Profilinize kimlerin baktığını görün

Meetup Top suggestions for you this week - Meetup Check out these events based on your groups and inter...

Twitter Middle East Aid and Development Forum, don't be shy - Slide that great Tweet into a DM.

Account Search Maps

YouTube Play News

Gmail Meet Chat

Contacts Drive Calendar

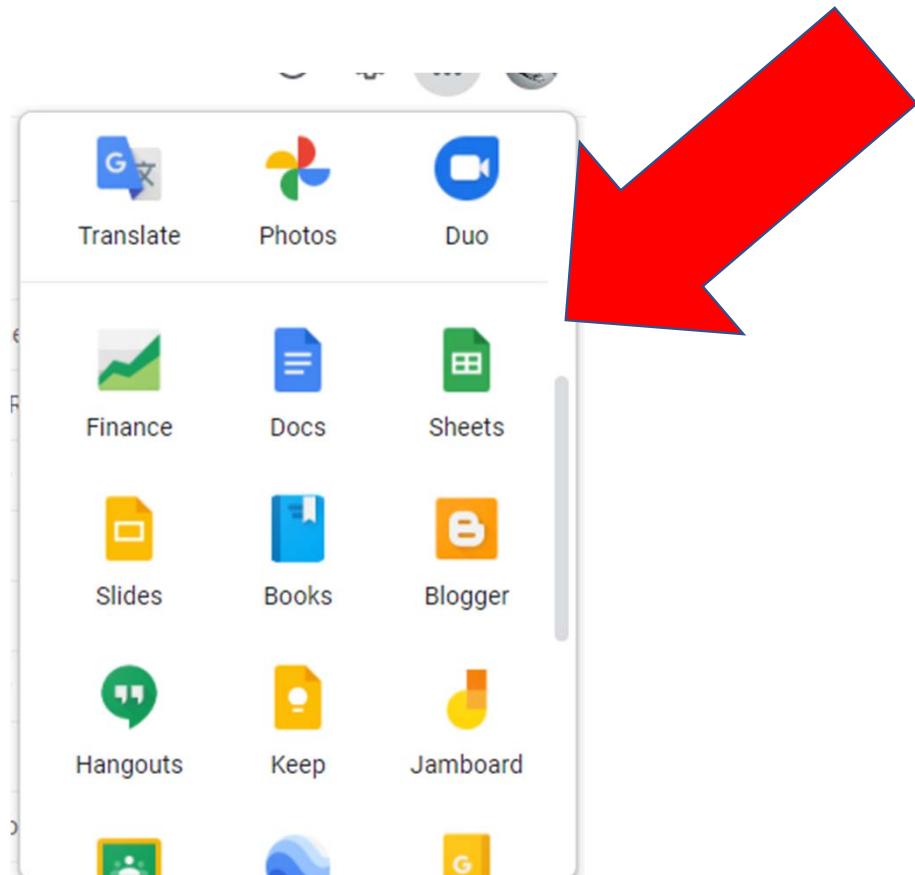


Google
Sheets

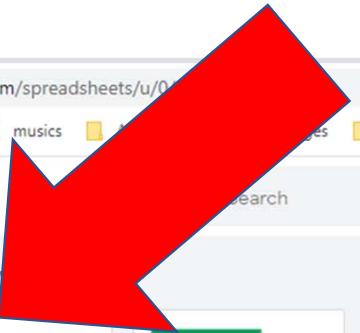
HOW TO ACCESS



TECHPROED



HOW TO ACCESS



docs.google.com/spreadsheets/u/0/

Uygulamalar dictionaries musics Google Sheets MEAID Data Scientist KORROGO Career Coaching TechProEd LinkedIn Google Sheet Okuma listesi

Sheets

Start a new

Blank To-do list Monthly budget Annual budget Google Finance Invest... Annual Calendar

Template gallery

Today

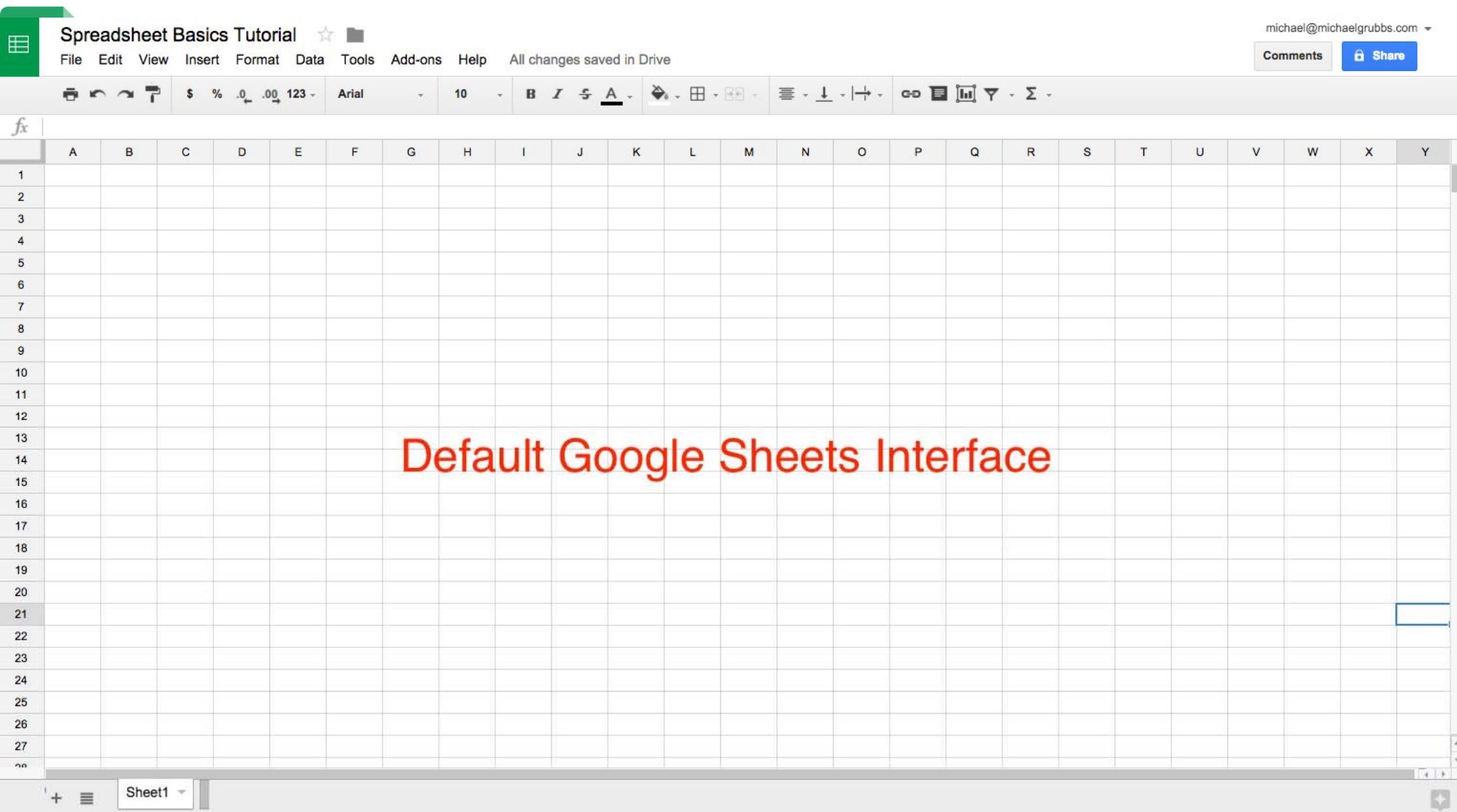
GSH01_PreparingData_End barton poulson, founder 12:56 AM

GSH01_GettingStarted_Begin barton poulson, founder 12:55 AM

Yesterday

Germany Clarusway IT Fundamental me Dec 13, 2021

Clarusway Turkish Instructor Candidates Carter C Dec 13, 2021 Windows'u Etkinleştir

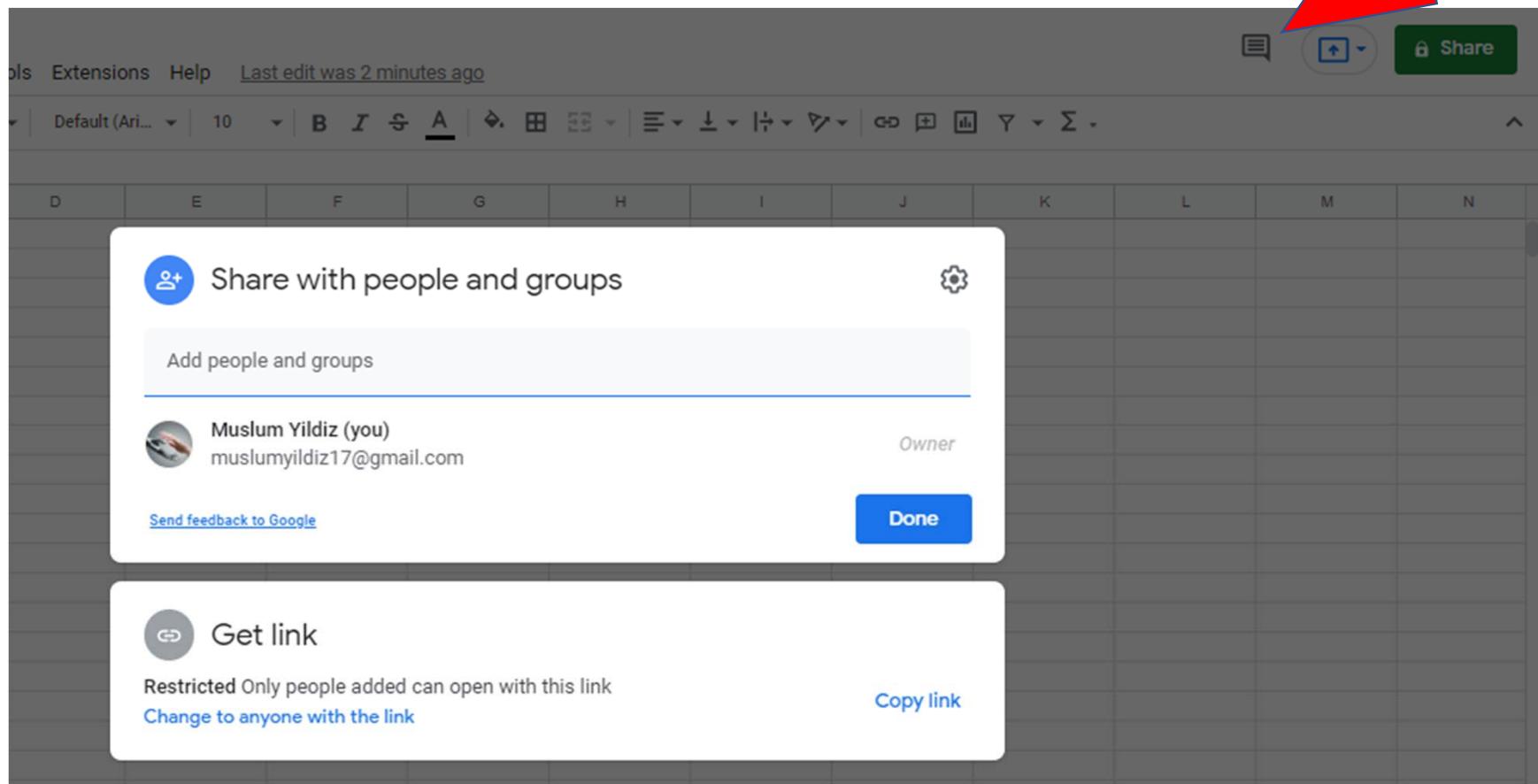




Google Sheets



TECHPROED





Spreadsheet Basics Tutorial

File Edit View Insert Format Data Tools Add-ons Help Last edit was yesterday at 6:21 PM

michael@michaelgrubbs.com

Comments Share

A B C D E F G H I

1 Ingredient List Scrambled Eggs

2 Eggs

3 Bread

4 Milk

5 Cereal (or Flour)

6 Butter

7 Salt

8 Sugar

9 Total "Parts" Needed

10 Number of Ingredients

11 Avg Price / Serving \$2.14

12 Tutorial Link https://www.youtube.com/watch?v=ldza8kY0zY

13 Make it so no-one can modify these sharing settings

14

15

16

17

18

19

20

21

22 If you're sharing your spreadsheet publicly and don't want people copying it

23

24

25

26

27

Sharing settings

Link to share (only accessible by collaborators)
<https://docs.google.com/a/michaelgrubbs.com/spreadsheets/d/17KyVrFelas3xas4jeDt>

Who has access

B Private - Only you can access

Change... Michael Grubbs (you) michael@michaelgrubbs.com Is owner

Invite people:

Enter names or email addresses... Can edit

Owner settings Learn more

Prevent editors from changing access and adding new people

Disable options to download, print, and copy for commenters and viewers

Done

Link copied to clipboard by default

Change the spreadsheet permissions from private to public or "only your organization"

Change what they can do to your spreadsheet

Lowest Price per Ingredient Highest Price per Ingredient Average Unit Cost

1 0.33 0.5 0.41

2 0.1 0.2 0.1

3 0.5 0.75 0.62

4 0.2 0.5 0.37

5 0.05 0.15 0

6 0.1 0.2 0.1

7 0.25 0.5 0.37

8 0.05 0.15 0

9 0.1 0.2 0.1

10 0.2 0.5 0.37

11 0.05 0.15 0

12 0.1 0.2 0.1

13 0.25 0.5 0.37

14 0.05 0.15 0

15 0.1 0.2 0.1

16 0.25 0.5 0.37

17 0.05 0.15 0

18 0.1 0.2 0.1

19 0.25 0.5 0.37

20 0.05 0.15 0

21 0.1 0.2 0.1

22 0.25 0.5 0.37

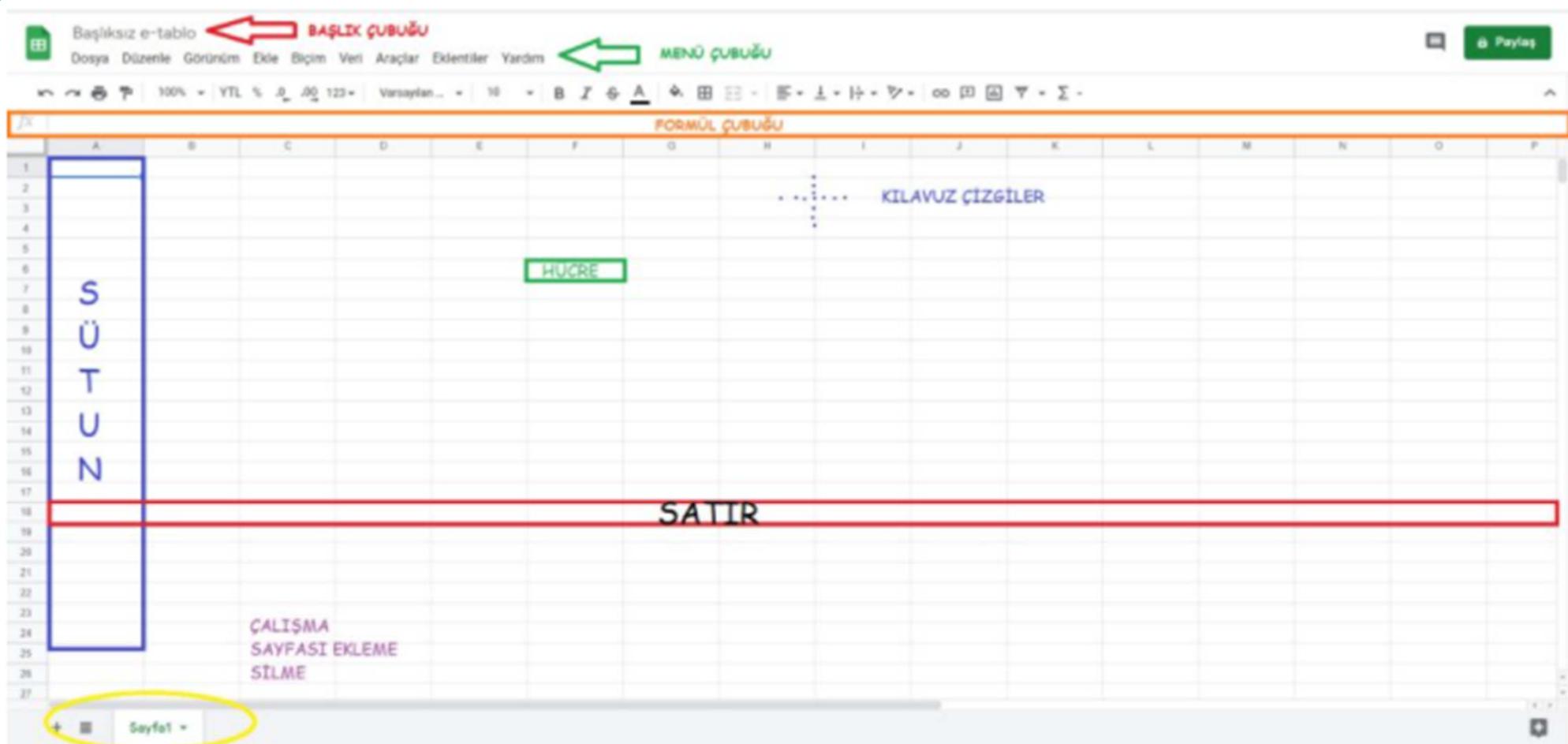
23 0.05 0.15 0

24 0.1 0.2 0.1

25 0.25 0.5 0.37

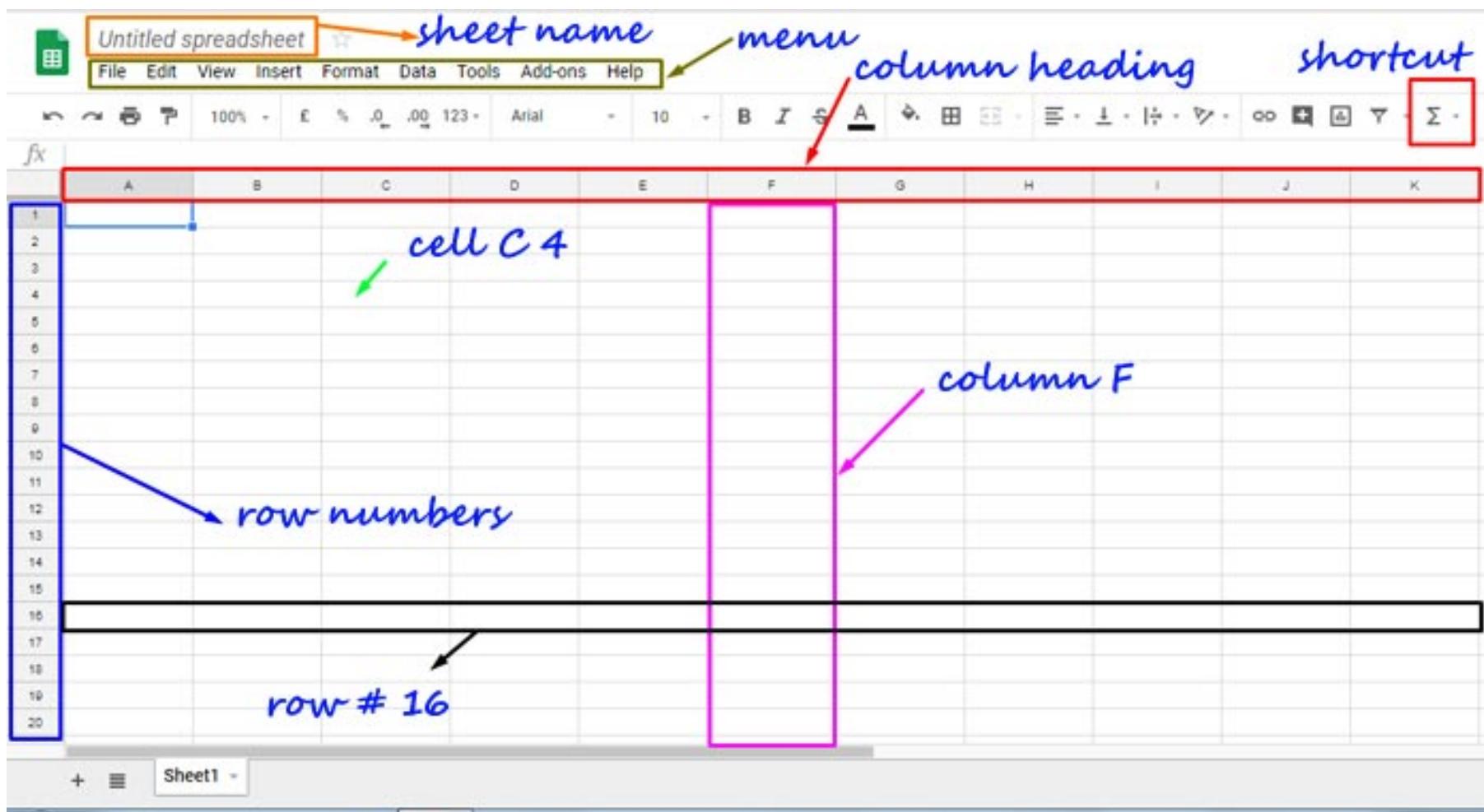
26 0.05 0.15 0

27 0.1 0.2 0.1



The screenshot shows the Google Sheets interface with several UI elements labeled in Turkish:

- BAŞLIK ÇUBUĞU**: The title bar at the top.
- MENÜ ÇUBUĞU**: The menu bar below the title bar.
- FORMÜL ÇUBUĞU**: The formula bar above the grid.
- KILAVUZ ÇİZGİLER**: The grid lines in the worksheet.
- HÜCRE**: A selected cell in the grid.
- SÜTUN**: A column header, specifically column A.
- SATIR**: A row header, specifically row 18.
- ÇALIŞMA SAYFASI EKLEME**: The "Add sheet" button in the bottom-left corner.
- SİLME**: The "Delete sheet" button in the bottom-left corner.
- Sayfa!**: The page number indicator in the bottom-left corner.



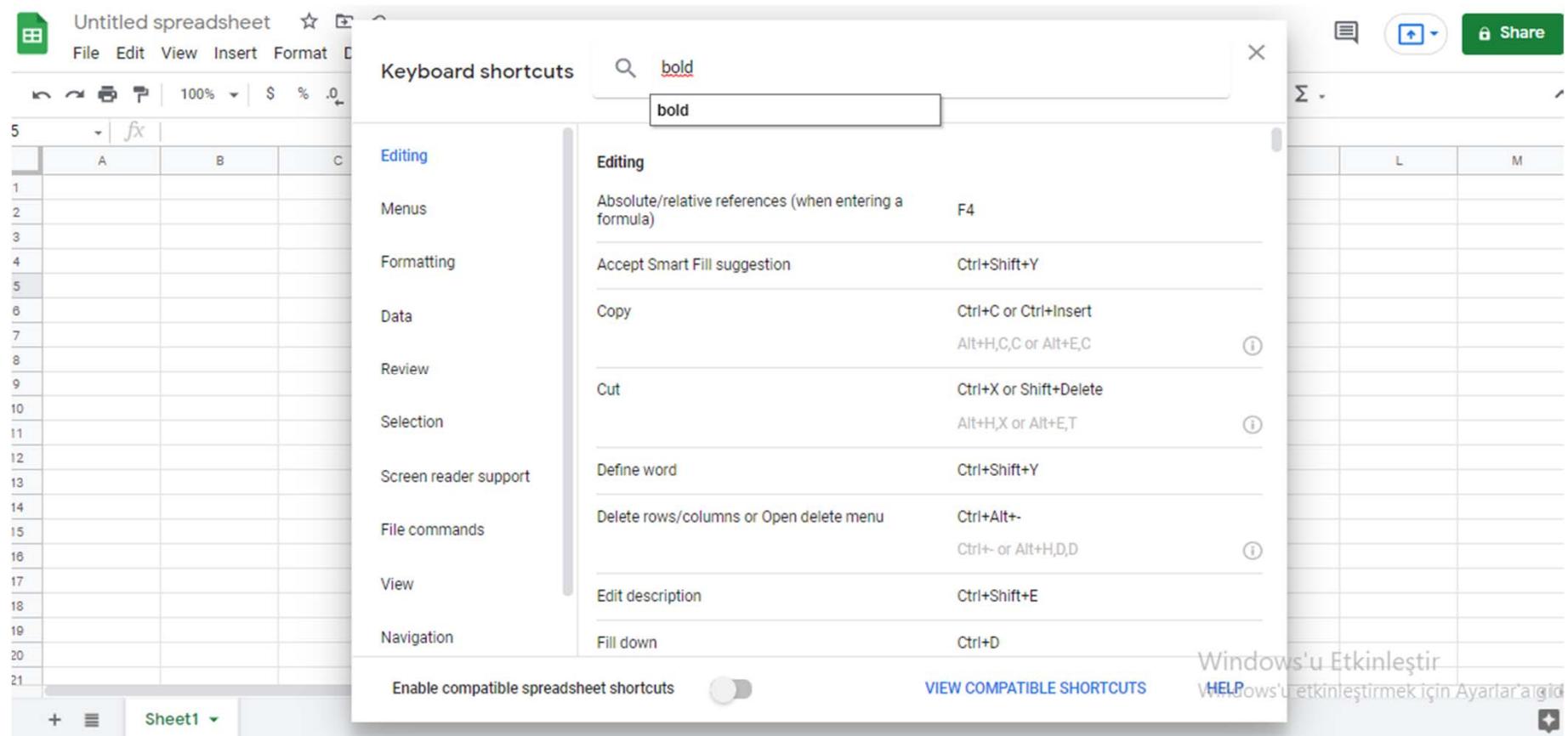


Google
Sheets

SHORTCUTS



CTRL + / : Keyboard shortcuts



The screenshot shows a Google Sheets interface with a search bar at the top containing the text "bold". A sidebar on the left lists categories: Editing, Menus, Formatting, Data, Review, Selection, Screen reader support, File commands, View, and Navigation. The "Editing" category is expanded, displaying the following keyboard shortcuts:

Action	Keyboard Shortcut
Absolute/relative references (when entering a formula)	F4
Accept Smart Fill suggestion	Ctrl+Shift+Y
Copy	Ctrl+C or Ctrl+Insert
Cut	Ctrl+X or Shift+Delete
Define word	Ctrl+Shift+Y
Delete rows/columns or Open delete menu	Ctrl+Alt+-
Edit description	Ctrl+Shift+E
Fill down	Ctrl+D

At the bottom of the dialog, there is a toggle switch labeled "Enable compatible spreadsheet shortcuts" and two buttons: "VIEW COMPATIBLE SHORTCUTS" and "HELP".

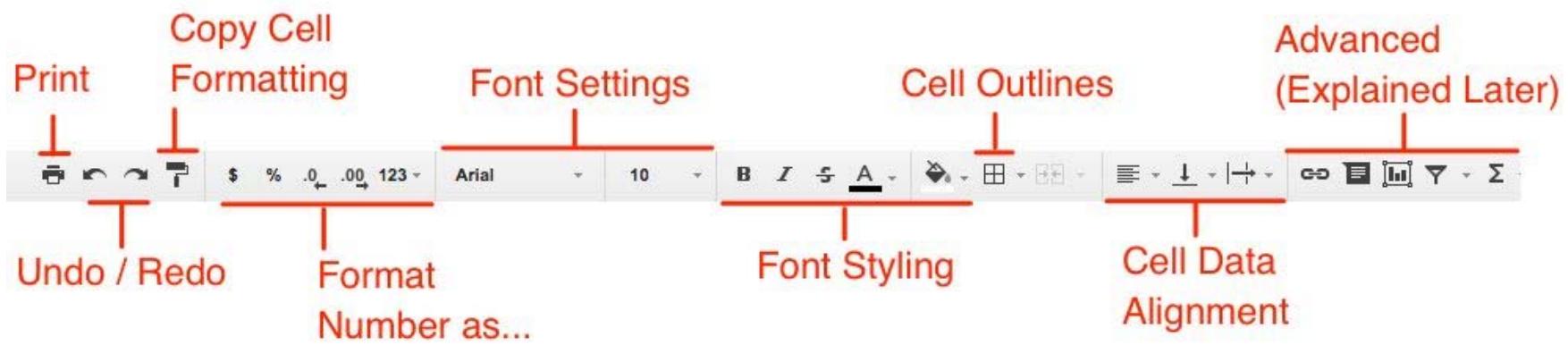


Google
Sheets



TECHPROED

TOOLBAR Overview





Labels Strings non-numeric	Category	Quarters	Months
	Electronics	Q1	October
	Fashion	Q2	November
	Home & Kitchen	Q3	December
	Mother, Baby & Toys	Q4	January
Values Numbers Dates Currencies	Taxes	Quarters	Dates
	€1,000.00	1/2018	1/10/2018
	€1,500.00	4/2018	4/15/2018
	€1,700.00	7/2018	7/5/2018
	€750.00	10/2018	10/31/2018
Formulas Combinations of Functions	Formula 1	Formula 2	Formula 3
	4,950	€455,400	€90,338
	2	256	256



Cells

Cell B5

Cell F2

Cell K4

Vertical & Horizontal Ranges

Horizontal Range B10:H10

Monday **Tuesday** **Wednesday** **Thursday** **Friday** **Saturday** **Sunday**

Vertical Range
J11:J17

1
2
3
4
5
6
7

General Ranges

Range B21:D24

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
A	228	218	187	126	216	129
B	236	140	135	113	168	152
C	200	161	115	204	147	136



Google
Sheets



ED

FREEZE

Spreadsheet Basics Tutorial

File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

fx 4

A 1 Ingredient List

2 Eggs

3 Bread

4 Milk

5 Cereal (or Flc)

6 Butter

7 Salt

8 Sugar

9 Total "Parts" Needed 6 7

10 Number of Ingredients 3 4 2 4 1 4

11 Avg Price / Serving 0.8 0.99 0.75 1 1.25

12 Tutorial Link <https://www.youtube.com/watch?v=itdza8kY0zY> <https://www.youtube.com/watch?v=itdza8kY0zY> <https://www.youtube.com/watch?v=itdza8kY0zY> <https://www.youtube.com/watch?v=itdza8kY0zY> <https://www.youtube.com/watch?v=itdza8kY0zY>

13

14

15

16

17

Freeze ▶

No rows

✓ Gridlines

Protected ranges

✓ Formula bar

All formulas Ctrl+`

Hidden sheets ▶

Compact controls Ctrl+Shift+F

Full screen

1 row

2 rows

Up to current row (10)

No columns

1 column

2 columns

Up to current column (E)

D

E

F

G

Milk

Cereal

Muffin

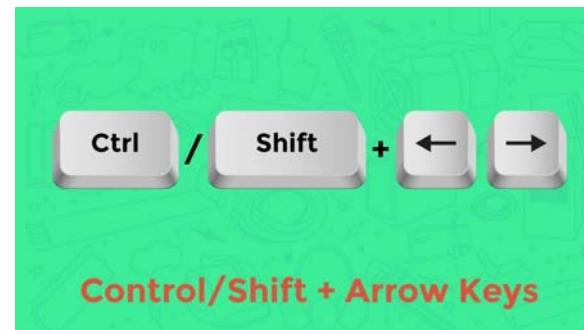
Doughnut

1 2 3 2 3 3 2 4

2 3 4 1 2 1.25

Or grab this dark grey bar and drag it between row 1 and 2

Select to "Freeze" the first row



	A	B	C	D	E	F
985	6107	Daphne Flude	719-411-83	dfluderb@nps.gov	Nps	South
986	6108	Rhetta Riggoll	534-310-46	rrieggollrc@uol.com.br	Uol.Com	North
987	6109	Mahalia Gerin	459-287-27	mgerinrd@over-blog.com	Over-Blog	North
988	6110	Miran Bertome	973-748-69	mbertomere@buzzfeed.com	Buzzfeed	West
989	6111	Bobina Lynock	422-792-73	blynockrf@about.com	About	West
990	6112	Niles Girodon	645-240-72	ngirodonrg@biblegateway.co	Biblegateway	West
991	6113	Konstantin Westgarth	537-856-98	kwestgarthrh@salon.com	Salon	East
992	6114	Charissa Brach	693-107-94	cbrachri@hao123.com	Hao123	East
993	6115	Woodrow Lemery	822-479-14	wlemeryrj@sogou.com	Sogou	West
994	6116	Aliza O'Kielt	828-573-14	aokieltrk@dedecms.com	Dedecms	North
995	6117	Louisa Larvie	417-882-72	liarvierl@blogtalkradio.co	Blogtalkradio	East
996	6118			yrm@joomla.org	Joomla	East
997	6119			usrn@archive.org	Archive	South
998	6120			o@wp.com	Wp	West
999	6121			o@rambler.ru	Rambler	North
1000	6122			gtonrq@chicagotribun	Chicagotribune	West
1001	6123			rr@symantec.com	Symantec	North
1002						

Select Used Cells in a Column



Excel Number Formatting Shortcuts

General

5145.89

Time

4:45 PM

Currency

\$5,145.89

Scientific

1.45E+03

~

!

@

#

\$

%

^

&

Tab

Number

5,145.89

Date

25-Dec-86

Percent

98%

Border

100

Shift

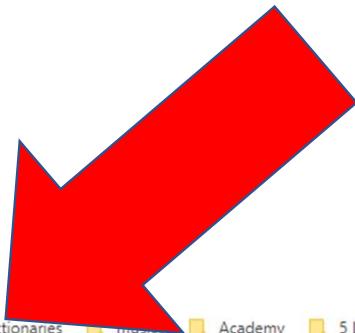
Ctrl



Excel Campus



Google
Sheets



FILE NAME



Uygulamalar dictionaries Academy 5 Languages MEAID Data Scientist KORROGO Career Coaching TechProEd LinkedIn Google Sheet > Okuma listesi

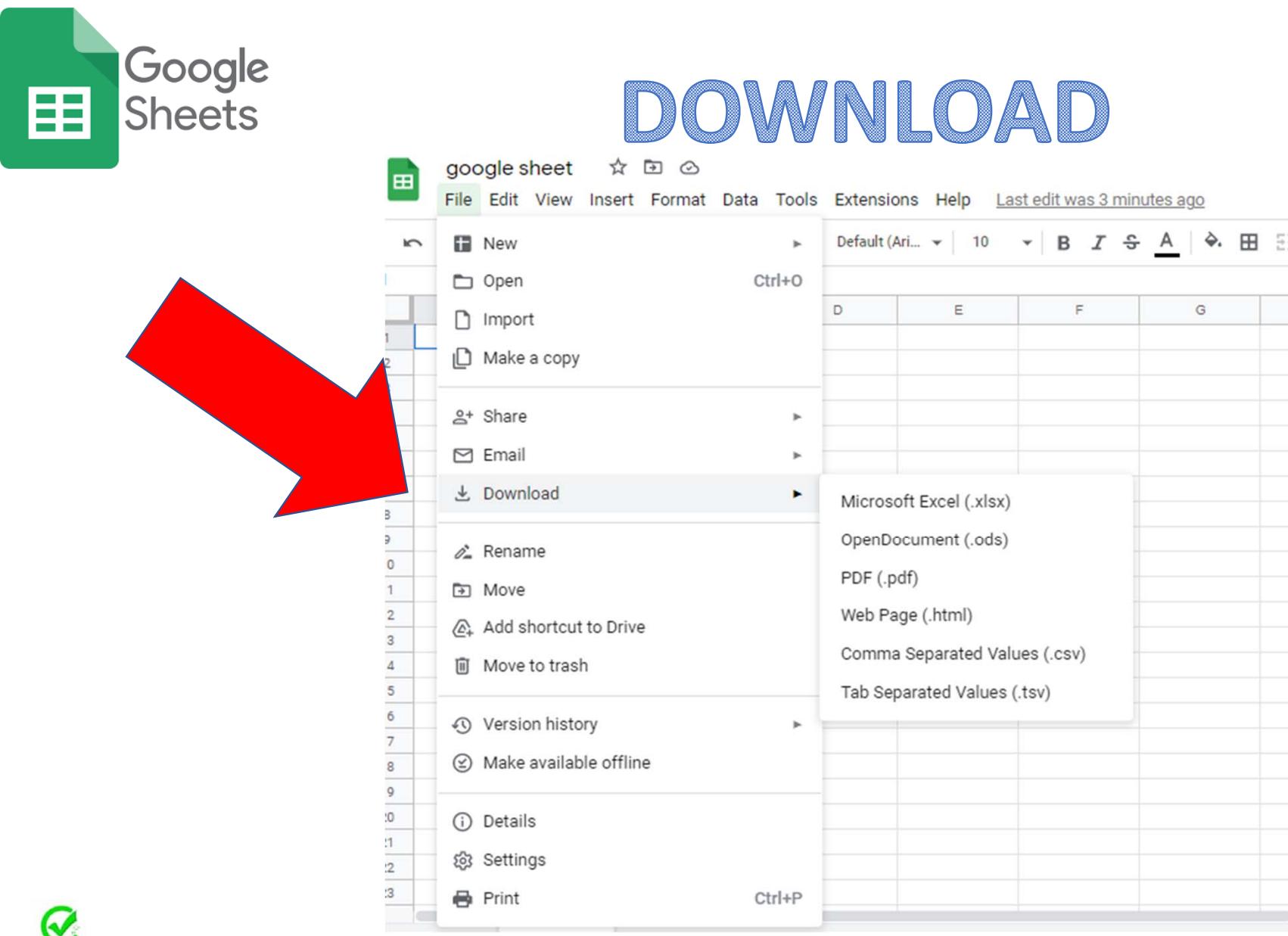
Untitled spreadsheet in My Drive

File Edit View Insert Format Data Tools Extensions Help Last edit was seconds ago

A1 | fx |

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														





IMPORT

Importing an existing spreadsheet file into a new Google "Sheet" is easy

Importing a file is simple as well. You can either import directly into the current spreadsheet, create a new spreadsheet, or replace a sheet (i.e. an individual tab) with the imported data.

The most common files you'll import are CSV (comma separated values) or XLS and XLSX (files from Microsoft Excel). To import a file from outside of your Google Drive, go to the FILE > IMPORT > UPLOAD menu.

You can also create new sheets with the "+" down here

V

+ Sheet1

Untitled spreadsheet -....csv

Copy-and-paste-data-i....gif

Show All





Google
Sheets

FUNCTIONS



Equals sign

=SUM(A1:A20)

Function name Argument



Google
Sheets

FUNCTIONS



fx | =AVERAGE(B1:B9)

	A	B	C	
1		1		
2		4		
3		5		
4		6		
5		8		
6		2		
7		3		
8		5		
9		6		
10		? =AVERAGE(B1:B9)		
11				
12				





Google
Sheets

FUNCTIONS



fx

=SUM(A1:A3,C1:C2,E1)

	A	B	C	D	E	
1	4		6		20	
2	8		10			
3	12					
4						
5	?	=SUM(A1:A3,C1:C2,E1)				
6						





Google
Sheets

CREATING A FUNCTION



fx =SUM(D3:D12)

A	B	C	D
ITEM	QUANTITY	UNIT PRICE	LINE TOTAL
Tomatoes (case of 12)	3	\$17.44	\$52.32
Black Beans (case of 10)	5	\$20.14	\$100.70
All Purpose Flour (50 lb.)	5	\$14.05	\$70.25
Corn Meal/Maza (25 lb.)	5	\$18.69	\$93.45
Brown Rice (25 lb.)	5	\$10.99	\$54.95
Lime Juice (1 gallon)	5	\$11.99	\$59.95
Tomato Juice (case of 10)	3	\$19.49	\$58.47
Hot Sauce (1 gallon)	8	\$7.35	\$58.80
Salsa, Medium (1 gallon)	12	\$8.47	\$101.64
Olive Oil (2.5 gallon)	4	\$28.69	\$114.76
TOTAL			=SUM(D3:D12)
13			
14			





Google
Sheets

BASIC FUNCTIONS



SUM

AVERAGE

PRODUCT

QUOTIENT

COUNT

COUNTA

MIN

MAX





Google
Sheets

TOPLAMA

SUM



Paste Format | **B** *I* U |

B5 =SUM(B2:B4)

A	B	C	D	E
1 Name	Monday	Tuesday	Wednesday	
2 Shine	100	150	150	
3 Balaji	100	150	150	
4 Bharath	200	250	250	
5	400	550	550	
6				
7				
8				





Google
Sheets

PRODUCT



ÇARPMA

	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

=PRODUCT(C3,C4,C5,C6

Example 1

	A	B	C	D
Number of farms		2		
Number of chicken coops per farm		3		
Number of chickens per coop		5		
Number of eggs per chicken		3		

90 × er

=PRODUCT(C3,C4,C5,C6





Google
Sheets

MINUS



formula bar

	A	B	C
1	Income	Expenditure	Balance
2	7390.2	325	7065.2
3	78925.5	1313	
4	98436	3525	
5	2492	1345	
6	2462	213	
7			
8			

ÇIKARMA

TJ SSSample

File Edit View Insert Format Data

fx

=MINUS(B3,B4)

	A	B	C	D
1				
2				
3		250		
4		200		
5		50		
6				
7				





Google
Sheets

DIVIDE



BÖLME

My Super Cool Excel Spreadsheet

File Edit View Insert Format Data Tools

100% | £ % .0 .00 123

=DIVIDE(H2,I2)

	H	I	J	
1				
2	1			=DIVIDE(H2,I2)
3	2		3	
4	4		3	
5	5		6	





Google
Sheets

AVERAGE



ARİTMATİK
ORTALAMA

The screenshot shows a Google Sheets interface. The formula bar at the top contains the formula `=average(B1:B7)`, which is highlighted with a red box and a red arrow pointing to it from the left. The spreadsheet area shows a table with columns A, B, and C. Row 1 contains the formula result `5.714285714`. Rows 2 through 7 contain numerical values: 6, 1, 2, 3, 4, 15, and 15 respectively. Row 8 is empty. The column headers are A, B, and C.

A	B	C
1	5.714285714	4
2	6	5
3	1	3
4	2	5
5	3	7
6	4	9
7	15	10
8		
9		





Google
Sheets

COUNT

Returns the number of numeric values in a dataset.

SAYISAL DEĞERLER

COUNT

COUNT

General Usage

value
Google
7
1/31/2012
\$100.00

COUNTA

Result

3

Formula

=COUNT(A2:A6)



Google
Sheets

COUNTA

Returns the number of values in a dataset.

BOŞ OLMAYAN
HER ŞEY

COUNTA



	A	B
1	Customer Name	TOTAL ORDERED AMOUNT
2	Richie Dyer	\$4,324.00
3	Craig Zamora	\$865.00
4		
5		
6	Jennie Mayer	\$978.00
7		
8	Ziba Barber	\$4,324.00
9		
10	Sahib Mckinney	\$320.00
11	Juliet Rodrigues	\$7,634.00
12		
13		no. of cells that are not blank
14	6	



Google
Sheets

MIN



TECHPROED

MIN

Returns the minimum value in a numeric dataset.

MINIMUM
DEĞER

MIN : General Usage

number
3
5
-1
4
2

Result	Formula
-1	=MIN(A2:A6)





Google
Sheets

MAX

MAX

Returns the maximum value in a numeric dataset.

MAKSİMUM
DEĞER

MAX : General Usage

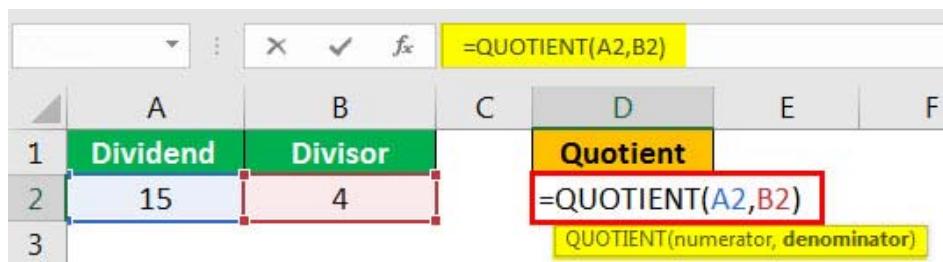
number	
3	
5	
-1	
4	
2	

Result	Formula
5	=MAX(A2:A6)

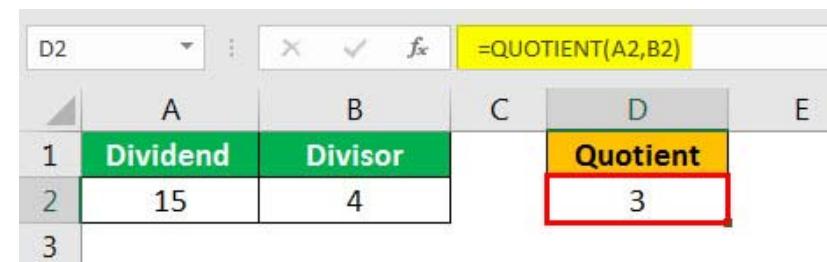


QUOTIENT

The QUOTIENT function returns the integer portion of division without the remainder. ...



	A	B	C	D	E	F
1	Dividend	Divisor		Quotient		
2	15	4		=QUOTIENT(A2,B2)		
3				QUOTIENT(numerator, denominator)		



	A	B	C	D	E
1	Dividend	Divisor		Quotient	
2	15	4		3	
3					

UNIQUE

fx | =UNIQUE(A2:A15)

	A	B	C	D	E	F
1	Name	Age	Result #1	Formula Used		
2	David	21	David	=Unique(A2:A15)		
3	Eric	23	Eric			
4	Brett	19	Brett			
5	Francis	22	Francis			
6	Angela	25	Angela			
7	Caroline	27	Caroline			
8	Charlie	20	Charlie			
9	Alfred	23	Alfred			
10	David	21	Dennis			
11	Dennis	21	Bob			
12	Bob	24	Evan			
13	Caroline	28				
14	Evan	26				
15	Eric	25				
16						
17						
18						
19						

UNIQUE (Multiple Columns)

fx =unique(A2:B15)

	A	B	C	D	E	F
1	Name	Age	Result #2		Formula Used	
2	David	21	David	21	=Unique(A2:B15)	
3	Eric	23	Eric	23		
4	Brett	19	Brett	19		
5	Francis	22	Francis	22		
6	Angela	25	Angela	25		
7	Caroline	27	Caroline	27		
8	Charlie	20	Charlie	20		
9	Alfred	23	Alfred	23		
10	David	21	Dennis	21		
11	Dennis	21	Bob	24		
12	Bob	24	Caroline	28		
13	Caroline	28	Evan	26		
14	Evan	26	Eric	25		
15	Eric	25				
16						
17						
18						
19						