

A photograph of a young woman with long brown hair and glasses, smiling and looking towards the camera. She is wearing a denim jacket over a pink turtleneck sweater and is sitting on a dark leather couch. A silver laptop is open on her lap. In the background, there is a large potted plant with long, thin green leaves.

Mini Data Bootcamp

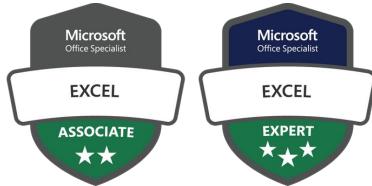
Day One - Microsoft Excel 101



Mini Data Science Bootcamp

3 วิชา 6-7 ชั่วโมง

สำหรับผู้เริ่มต้น อยากเป็น Data Analyst



สอนโดย **แอดกอย**
คนดีคนเดียว



Microsoft Excel

Day 1

เกณฑ์การสอบ
ผ่านที่ 80%

SQL Database

Day 2

Dashboard & Report

Day 3



A photograph of a young woman with long brown hair and glasses, wearing a denim jacket over a pink turtleneck. She is sitting on a dark leather couch, looking at a silver laptop screen with a smile. The background is dark with some green plants visible.

Course Outline



Content

- Why spreadsheets
- What is function?
- Common functions for data analysts
- Dimension vs. Measurement
- Pivot Table, the best thing in Excel
- Professional workflow

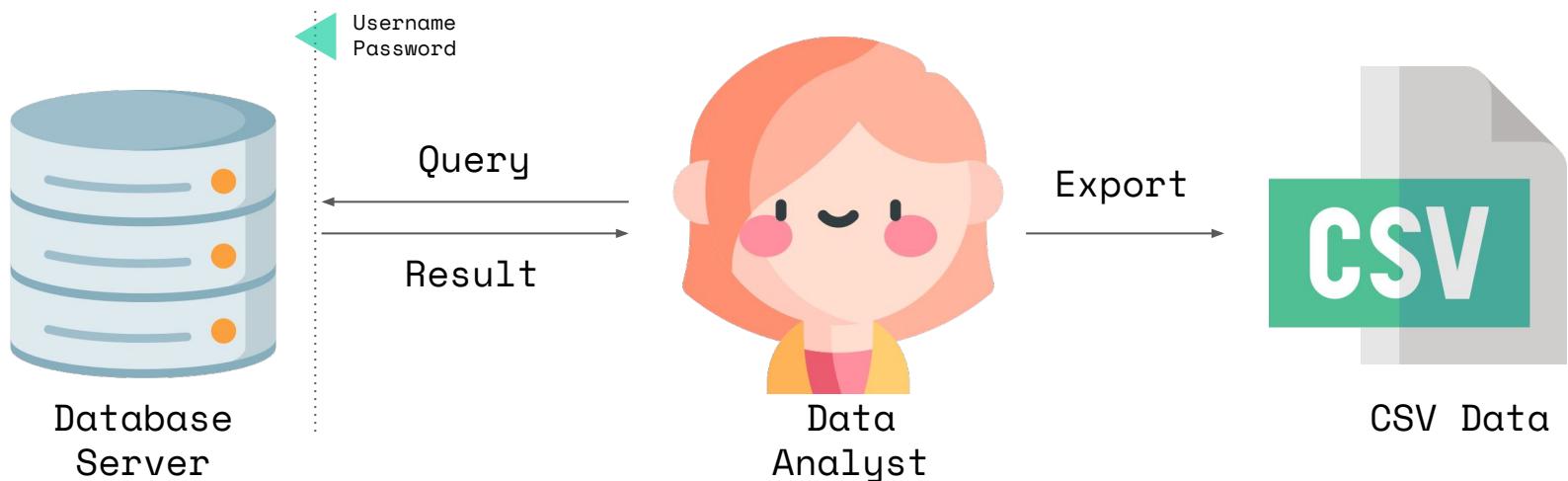


A photograph of a young woman with long brown hair and glasses, smiling broadly. She is wearing a pink turtleneck and a blue denim jacket. She is sitting on a dark leather sofa, looking at a silver laptop. To her right is a large potted plant with long, thin green leaves. The background is dark and out of focus.

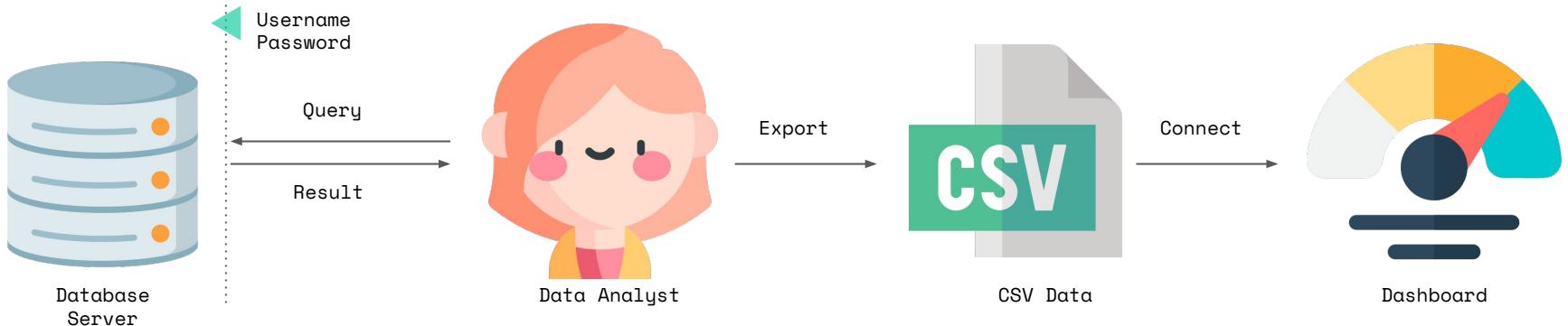
Data Analyst Workflow



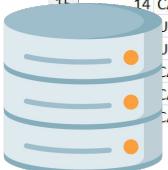
Data Analyst Workflow



Data Analyst Workflow V2



Structured data



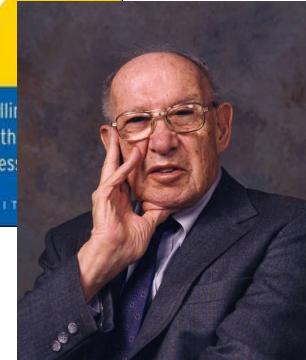
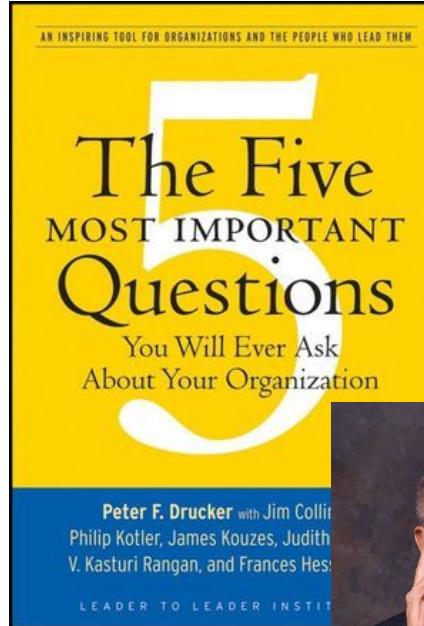
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer	Customer Segment	Country	City	State	Postal Code	Region	Product ID	Category	Sub-Categ	Product Name	Sales	Quantity	Discount	Profit	
2	1	CA-2016-1	11/8/2016	11/11/2016	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	FUR-BO-10	Furniture	Bookcases	Bush Some	261.96	2	0	41.9136
3	2	CA-2016-1	11/8/2016	11/11/2016	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	FUR-CH-10	Furniture	Chairs	Hon Delux	731.94	3	0	219.582
4	3	CA-2016-1	6/12/2016	6/16/2016	Second Class	DV-13045	Darrin Van	Corporate	United States	Los Angeles	California	90036	West	OFF-LA-10	Office Supply	Labels	Self-Adhesive	14.62	2	0	6.8714
5	4	US-2015-1	10/11/2015	10/18/2015	Standard Class	CSO-20335	Sean O'Do	Consumer	United States	Fort Lauderdale	Florida	33311	South	FUR-TA-10	Furniture	Tables	Bretford C	957.5775	5	0.45	-383.031
6	5	US-2015-1	10/11/2015	10/18/2015	Standard Class	CSO-20335	Sean O'Do	Consumer	United States	Fort Lauderdale	Florida	33311	South	OFF-ST-10	Office Supply	Storage	Eldon Fold	22.368	2	0.2	2.5164
7	6	CA-2014-1	6/9/2014	6/14/2014	Standard Class	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	FUR-FU-10	Furniture	Furnishing	Eldon Express	48.86	7	0	14.1694
8	7	CA-2014-1	6/9/2014	6/14/2014	Standard Class	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	OFF-AR-10	Office Supply	Art	Newell 32"	7.28	4	0	1.9656
9	8	CA-2014-1	6/9/2014	6/14/2014	Standard Class	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-10	Technology	Phones	Mitel 5320	907.152	6	0.2	90.7152
10	9	CA-2014-1	6/9/2014	6/14/2014	Standard Class	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	OFF-BI-10	Office Supply	Binders	DXL Angle-	18.504	3	0.2	5.7825
11	10	CA-2014-1	6/9/2014	6/14/2014	Standard Class	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	OFF-AP-10	Office Supply	Appliances	Belkin F5C	114.9	5	0	34.47
12	11	CA-2014-1	6/9/2014	6/14/2014	Standard Class	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	FUR-TA-10	Furniture	Tables	Chromcraft	1706.184	9	0.2	85.3092
13	12	CA-2014-1	6/9/2014	6/14/2014	Standard Class	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-10	Technology	Phones	Konftel 25	911.424	4	0.2	68.3568
14	13	CA-2017-1	4/15/2017	4/20/2017	Standard Class	AA-10480	Andrew All	Consumer	United States	Concord	North Carolina	28027	South	OFF-PA-10	Office Supply	Paper	Xerox 196*	15.552	3	0.2	5.4432
15	14	CA-2016-1	12/5/2016	12/10/2016	Standard Class	IM-15070	Irene Mad	Consumer	United States	Seattle	Washington	98103	West	OFF-BI-10	Office Supply	Binders	Fellowes P	407.976	3	0.2	132.5922
	JS-2015-1	11/22/2015	11/26/2015	Standard Class	HP-14815	Harold Pav	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-AP-10	Office Supply	Appliances	Holmes Re	68.81	5	0.8	-123.858	
	JS-2015-1	11/22/2015	11/26/2015	Standard Class	HP-14815	Harold Pav	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-BI-10	Office Supply	Binders	Storex Dur	2.544	3	0.8	-3.816	
	CA-2014-1	11/11/2014	11/18/2014	Standard Class	PK-19075	Pete Kriz	Consumer	United States	Madison	Wisconsin	53711	Central	OFF-ST-10	Office Supply	Storage	Stur-D-Sto	665.88	6	0	13.3176	
	CA-2014-1	5/13/2014	5/15/2014	Second Class	AG-10270	Alejandro I.	Consumer	United States	West Jordan	Utah	84084	West	OFF-ST-10	Office Supply	Storage	Fellowes S	55.5	2	0	9.99	
	CA-2014-1	8/27/2014	9/1/2014	Second Class	ZD-21925	Zuschuss D	Consumer	United States	San Francisco	California	94109	West	OFF-AR-10	Office Supply	Art	Newell 34"	8.56	2	0	2.4824	

Tip - ข้อมูลที่มีโครงสร้างเป็นตาราง ในโปรแกรมอื่นๆเรียกว่า **Table / Data Frame**



Ask Questions

1. เป้าหมายของธุรกิจเราคืออะไร (mission)
2. ลูกค้าเราเป็นใคร อยู่ที่ไหน (customer)
3. ลูกค้าอยากร่ำรวยอะไร (value)
4. เราจะทำอย่างไร (plan)
5. วัดผลสิ่งที่เราทำยังไง (result)



ยิ่งตามคำถามที่ดี ยิ่งพา
เราเข้าใกล้ **wisdom**

WISDOM

KNOWLEDGE

INFORMATION

DATA



A woman with long brown hair and glasses is smiling broadly while looking at a laptop screen. She is wearing a blue denim jacket over a pink turtleneck. The background is dark and out of focus, showing some foliage.

Why Spreadsheets



Why spreadsheets?

- Store [small] data
- Manage data
- Clean and prepare data
- Make report
- Make data visualization/ dashboard

Structured
data



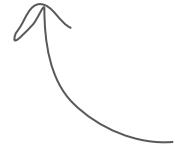
Structured data

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer	Customer Segment	Country	City	State	Postal Code	Region	Product ID	Category	Sub-Catag	Product Name	Sales	Quantity	Discount	Profit	
2	1	CA-2016-1	11/8/2016	11/11/2016	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	FUR-BO-1C	Furniture	Bookcases	Bush Some	261.96	2	0	41.9136
3	2	CA-2016-1	11/8/2016	11/11/2016	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	FUR-CH-1C	Furniture	Chairs	Hon Delux	731.94	3	0	219.582
4	3	CA-2016-1	6/12/2016	6/16/2016	Second Class	DV-13045	Darrin Van	Corporate	United States	Los Angeles	California	90036	West	OFF-LA-10	Office Supply	Labels	Self-Adhes	14.62	2	0	6.8714
5	4	US-2015-1	10/11/2015	10/18/2015	Standard	CSO-20335	Sean O'Do	Consumer	United States	Fort Lauderdale	Florida	33311	South	FUR-TA-1C	Furniture	Tables	Bretford C	957.5775	5	0.45	-383.031
6	5	US-2015-1	10/11/2015	10/18/2015	Standard	CSO-20335	Sean O'Do	Consumer	United States	Fort Lauderdale	Florida	33311	South	OFF-ST-10	Office Supply	Storage	Eldon Fold	22.368	2	0.2	2.5164
7	6	CA-2014-1	6/9/2014	6/14/2014	Standard	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	FUR-FU-1C	Furniture	Furnishing	Eldon Express	48.86	7	0	14.1694
8	7	CA-2014-1	6/9/2014	6/14/2014	Standard	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	OFF-AR-1C	Office Supply	Art	Newell 32"	7.28	4	0	1.9656
9	8	CA-2014-1	6/9/2014	6/14/2014	Standard	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-1C	Technology	Phones	Mitel 5320	907.152	6	0.2	90.7152
10	9	CA-2014-1	6/9/2014	6/14/2014	Standard	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	OFF-BI-10	Office Supply	Binders	DXL Angle-	18.504	3	0.2	5.7825
11	10	CA-2014-1	6/9/2014	6/14/2014	Standard	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	OFF-AP-10	Office Supply	Appliances	Belkin F5C	114.9	5	0	34.47
12	11	CA-2014-1	6/9/2014	6/14/2014	Standard	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	FUR-TA-1C	Furniture	Tables	Chromcraft	1706.184	9	0.2	85.3092
13	12	CA-2014-1	6/9/2014	6/14/2014	Standard	BH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-1C	Technology	Phones	Konftel 25	911.424	4	0.2	68.3568
14	13	CA-2017-1	4/15/2017	4/20/2017	Standard	CA-10480	Andrew All	Consumer	United States	Concord	North Carolina	28027	South	OFF-PA-10	Office Supply	Paper	Xerox 196*	15.552	3	0.2	5.4432
15	14	CA-2016-1	12/5/2016	12/10/2016	Standard	CM-15070	Irene Mad	Consumer	United States	Seattle	Washington	98103	West	OFF-BI-10	Office Supply	Binders	Fellowes P	407.976	3	0.2	132.5922
16	15	US-2015-1	11/22/2015	11/26/2015	Standard	CHP-14815	Harold Pav	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-AP-10	Office Supply	Appliances	Holmes Re	68.81	5	0.8	-123.858
17	16	US-2015-1	11/22/2015	11/26/2015	Standard	CHP-14815	Harold Pav	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-BI-10	Office Supply	Binders	Storex Dur	2.544	3	0.8	-3.816
18	17	CA-2014-1	11/11/2014	11/18/2014	Standard	CPK-19075	Pete Kriz	Consumer	United States	Madison	Wisconsin	53711	Central	OFF-ST-10	Office Supply	Storage	Stur-D-Sto	665.88	6	0	13.3176
19	18	CA-2014-1	5/13/2014	5/15/2014	Second Class	AG-10270	Alejandro	Consumer	United States	West Jordan	Utah	84084	West	OFF-ST-10	Office Supply	Storage	Fellowes S	55.5	2	0	9.99
20	19	CA-2014-1	8/27/2014	9/1/2014	Second Class	ZD-21925	Zuschuss D	Consumer	United States	San Francisco	California	94109	West	OFF-AR-1C	Office Supply	Art	Newell 34"	8.56	2	0	2.4824



Data types

- Numeric: 500, 25.5, 1002
- String: "Hello", "Data Science"
- Boolean: TRUE, FALSE
- Date: "2022-05-03"



YYYY-MM-DD



Custom Data Types

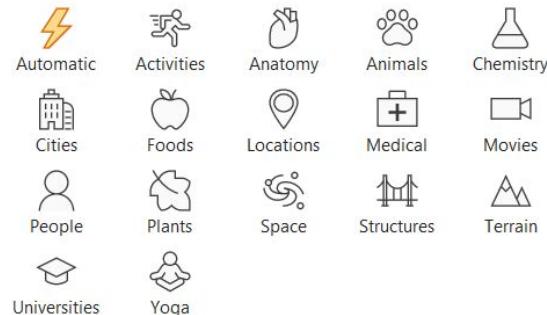
Recently used



Highlighted



Wolfram



Data types guide our approach

$x = [30, 25, 50, 20, 15]$

summary statistics



- $\text{sum}(x) = 140$
- $\text{mean}(x) = 28$
- $\text{min}(x) = 15$
- $\text{max}(x) = 50$
- $\text{count}(x) = 5$



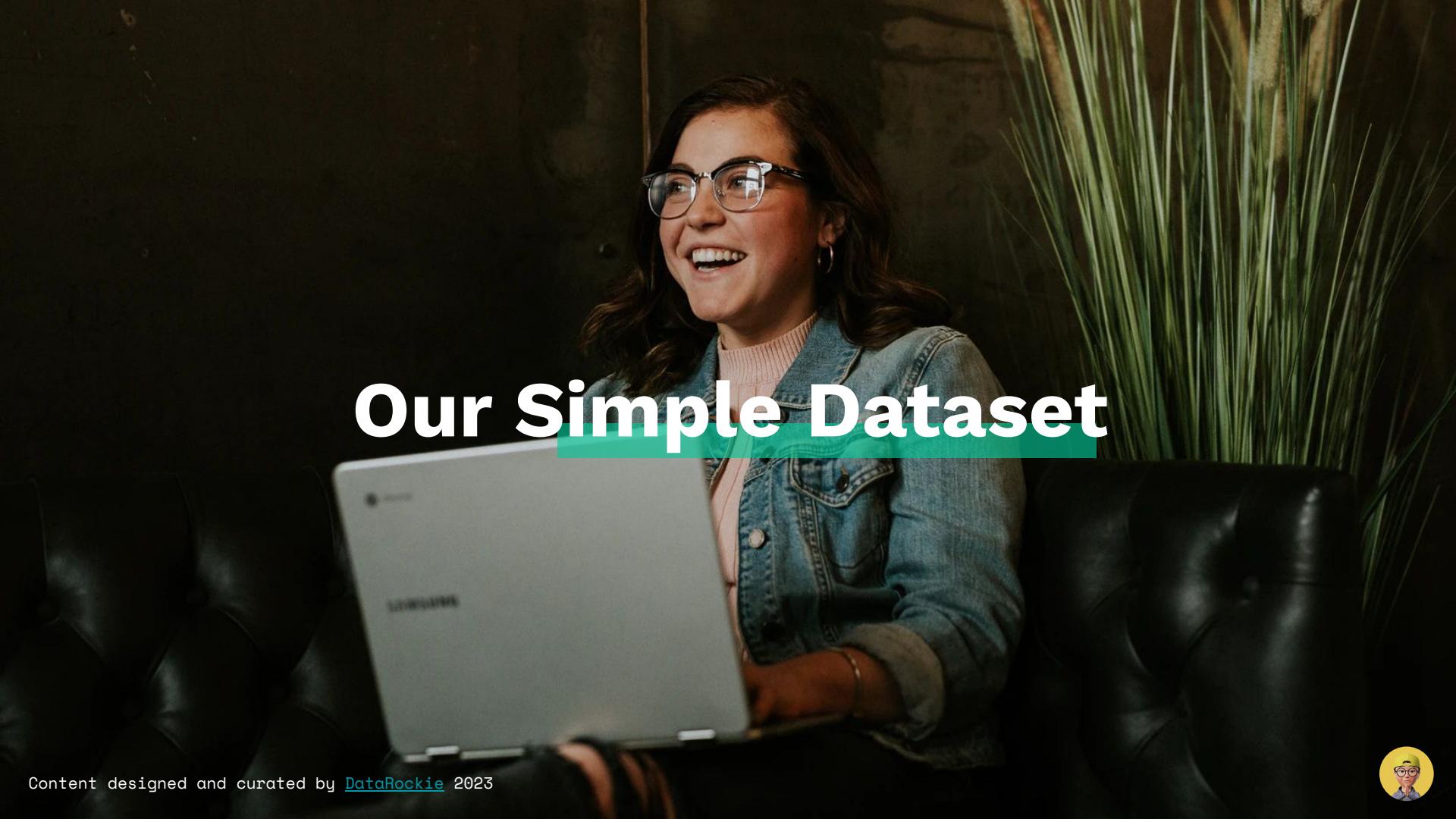
Data types guide our approach

$x = [\text{apple}, \text{apple}, \text{orange}, \text{orange}, \text{banana}, \text{lemon}, \text{orange}]$

summary statistics

We can only **count** items
apple(2), orange(2), banana(1), lemon(1)



A woman with long brown hair and glasses is smiling while looking at a laptop screen. She is wearing a denim jacket over a pink top. The background is dark with some green plants on the right.

Our Simple Dataset





Human Resource Data

	A	B	C	D	E	F	G	H	I	J	K	L
1	EMP_ID	NAME	DEPT	JOB_TITLE	POSITION	SALARY	BONUS	INCENTIVE	DEGREE	MAJOR	BIRTH_DATE	HIRE_DATE
2	1	Toy	Marketing	Manager	Back	90000	15000	Fixed	Bachelor	Marketing	1988-05-01	2020-02-01
3	2	John	Marketing	Officer	Back	25000	5000	Incentive	Bachelor	Marketing	1995-02-17	2019-11-14
4	3	Mary	Marketing	Officer	Back	30000	6000	Incentive	Bachelor	Economics	1984-11-16	2005-11-07
5	4	David	Marketing	AVP	Back	125000	25000	Fixed	Master	Computer	1990-06-03	2020-04-04
6	5	Anna	Marketing	SVP	Front	160000	20000	Fixed	Master	Economics	1996-09-29	2017-12-31
7	6	Kevin	Sales	Officer	Front	35000	9000	Incentive	Bachelor	Marketing	1982-12-22	2011-11-28
8	7	Mark	Sales	Officer	Front	32000	7500	Incentive	Bachelor	Economics	1981-05-25	2007-01-04
9	8	Nami	Sales	SVP	Front	185000	30000	Fixed	Master	Finance	1983-10-05	2009-07-22
10	9	Lufy	Finance	Officer	Back	28000	2500	Fixed	Bachelor	Management	1982-06-06	2005-09-26
11	10	Sunji	Finance	SVP	Back	178000	30000	Fixed	Bachelor	Finance	1979-10-22	2003-11-11
12	11	Zoro	HR	Officer	Back	32000	5000	Incentive	Bachelor	Human Resources	1985-01-27	2014-08-26
13	12	Uzop	HR	Officer	Back	45000	6800	Fixed	Bachelor	Social Sciences	1993-10-01	2023-05-28
14	13	Garf	HR	AVP	Back	148000	25000	Fixed	Bachelor	Social Sciences	1988-08-11	2017-09-01
15	14	Mihawk	CEO Office	CEO	Back	250000	50000	Fixed	Bachelor	Marketing	1992-03-04	2015-04-20
16	15	Jennifer	CEO Office	SVP	Back	180000	34000	Fixed	Bachelor	Finance	1996-06-24	2020-05-19
17	16	Kim	Data Science	Officer	Front	30000	2000	Incentive	Bachelor	Engineering	1989-10-04	2020-07-18
18	17	Liam	Data Science	Officer	Front	25000	2500	Incentive	Master	Engineering	1982-09-19	2006-12-05



Home > ຕຽບ

The screenshot shows a Microsoft Excel spreadsheet titled "practice_hr_data.xlsx" with data about employees. The ribbon is visible at the top, and the "Home" tab is selected. A callout arrow points from the text "Home > ຕຽບ" to the "Analyze Data" button in the ribbon's "Add-ins" section. The "Analyze Data" pane is open on the right side of the screen, displaying two charts. The first chart, titled "'SALARY' by 'JOB_TITLE'", shows the average salary for different job titles: CEO (~250k), SVP (~180k), AVP (~150k), Manager (~100k), and Officer (~50k). The second chart, titled "'SALARY' by 'INCENTIVE' and 'DEGREE'", compares fixed and incentive salaries for different degrees: Fixed (~250k) and Incentive (~50k).

EMP_ID	NAME	DEPT	JOB_TITLE	POSITION	SALARY	BONUS	INCENTIVE	DEGREE	MAJOR	BIRTH_DATE	HIRE_DATE
1	Toy	Marketing	Manager	Back	90000	15000	Fixed	Bachelor	Marketing	1988-05-01	2020-02-01
2	John	Marketing	Officer	Back	25000	5000	Incentive	Bachelor	Marketing	1995-02-17	2019-11-14
3	Mary	Marketing	Officer	Back	30000	6000	Incentive	Bachelor	Economic:	1984-11-16	2005-11-07
4	David	Marketing	AVP	Back	125000	25000	Fixed	Master	Computer	1990-06-03	2020-04-04
5	Anna	Marketing	SVP	Front	160000	20000	Fixed	Master	Economic:	1996-09-29	2017-12-31
6	Kevin	Sales	Officer	Front	35000	9000	Incentive	Bachelor	Marketing	1982-12-22	2011-11-28
7	Mark	Sales	Officer	Front	32000	7500	Incentive	Bachelor	Economic:	1981-05-25	2007-01-04
8	Nam	Sales	SVP	Front	185000	30000	Fixed	Master	Finance	1983-10-05	2009-07-22
9	Luffy	Finance	Officer	Back	28000	2500	Fixed	Bachelor	Management	1982-06-06	2005-09-26
10	Sunji	Finance	SVP	Back	178000	30000	Fixed	Bachelor	Finance	1979-10-22	2003-11-11
11	Zoro	HR	Officer	Back	32000	5000	Incentive	Bachelor	Human Re	1985-01-27	2014-08-26
12	Uzop	HR	Officer	Back	45000	6800	Fixed	Bachelor	Social Scie	1993-10-01	2023-05-28
13	Garf	HR	AVP	Back	148000	25000	Fixed	Bachelor	Social Scie	1988-08-11	2017-09-01
14	Mihawk	CEO	Offic	CEO	250000	50000	Fixed	Bachelor	Marketing	1992-03-04	2015-04-20
15	Jennifer	CEO	Offic	SVP	180000	34000	Fixed	Bachelor	Finance	1996-06-24	2020-05-19
16	Kim	Data Scier	Officer	Front	30000	2000	Incentive	Bachelor	Engineerin	1989-10-04	2020-07-18
17	Liam	Data Scier	Officer	Front	25000	2500	Incentive	Master	Engineerin	1982-09-19	2006-12-05
18	Wick	Data Scier	Manager	Front	80000	8000	Fixed	Master	Engineerin	1990-12-05	2011-09-12
19	Bean	Data Scier	SVP	Back	175000	40000	Fixed	Master	Statistics	1998-11-19	2020-10-13
20	Beck	Data Scier	AVP	Back	140000	38000	Fixed	Master	Data Scier	1983-06-04	2004-03-12
21											
22											
23											
24											

Analyze Data

ຕ້າງໜ່າຍວິເຄາະຫຼັບຂໍ້ມູນລ



Basic Data Management





การจัดการข้อมูลเบื้องต้น

The screenshot shows the Microsoft Excel ribbon with the 'Data' tab selected. In the 'Sort & Filter' group, there is a 'Filter' icon (represented by a funnel) which is highlighted with a callout bubble. The callout bubble contains the text 'Data > Filter'. Other icons in the group include 'Sort' (with ascending and descending arrows), 'Clear', 'Reapply', and 'Advanced'.

Data > Filter

Filter = กรองข้อมูล

Sort = เรียงข้อมูล

Ascending เรียงจาก A-Z

Descending เรียงจาก Z-A





กรองและเรียงข้อมูลได้ง่ายๆด้วย Excel

	A	B	C	D	E	F	G	H	I	J	K	L
1	EMP_ID	NAME	DEPT	JOB_TITLE	POSITION	SALARY	BONUS	INCENTI	DEGREE	MAJOR	BIRTH_DATE	HIRE_DATE
2	1	Toy	Marketing	Manager	Back	90000	15000	Fixed	Bachelor	Marketing	1988-05-01	2020-02-01
3	2	John	Marketing	Sort A to Z	Back	5000	5000	Incentive	Bachelor	Marketing	1995-02-17	2019-11-14
4	3	Mary	Marketing		Front	10000	6000	Incentive	Bachelor	Economics	1984-11-16	2005-11-07
5	4	David	Marketing	Sort Z to A	Front	5000	25000	Fixed	Master	Computer	1990-06-03	2020-04-04
6	5	Anna	Marketing		Front	10000	20000	Fixed	Master	Economics	1996-09-29	2017-12-31
7	6	Kevin	Sales	Sort by Color	Front	5000	9000	Incentive	Bachelor	Marketing	1982-12-22	2011-11-28

Clear Filter From "JOB_TITLE"

Filter by Color

Text Filters

Search

(Select All)

AVP

CEO

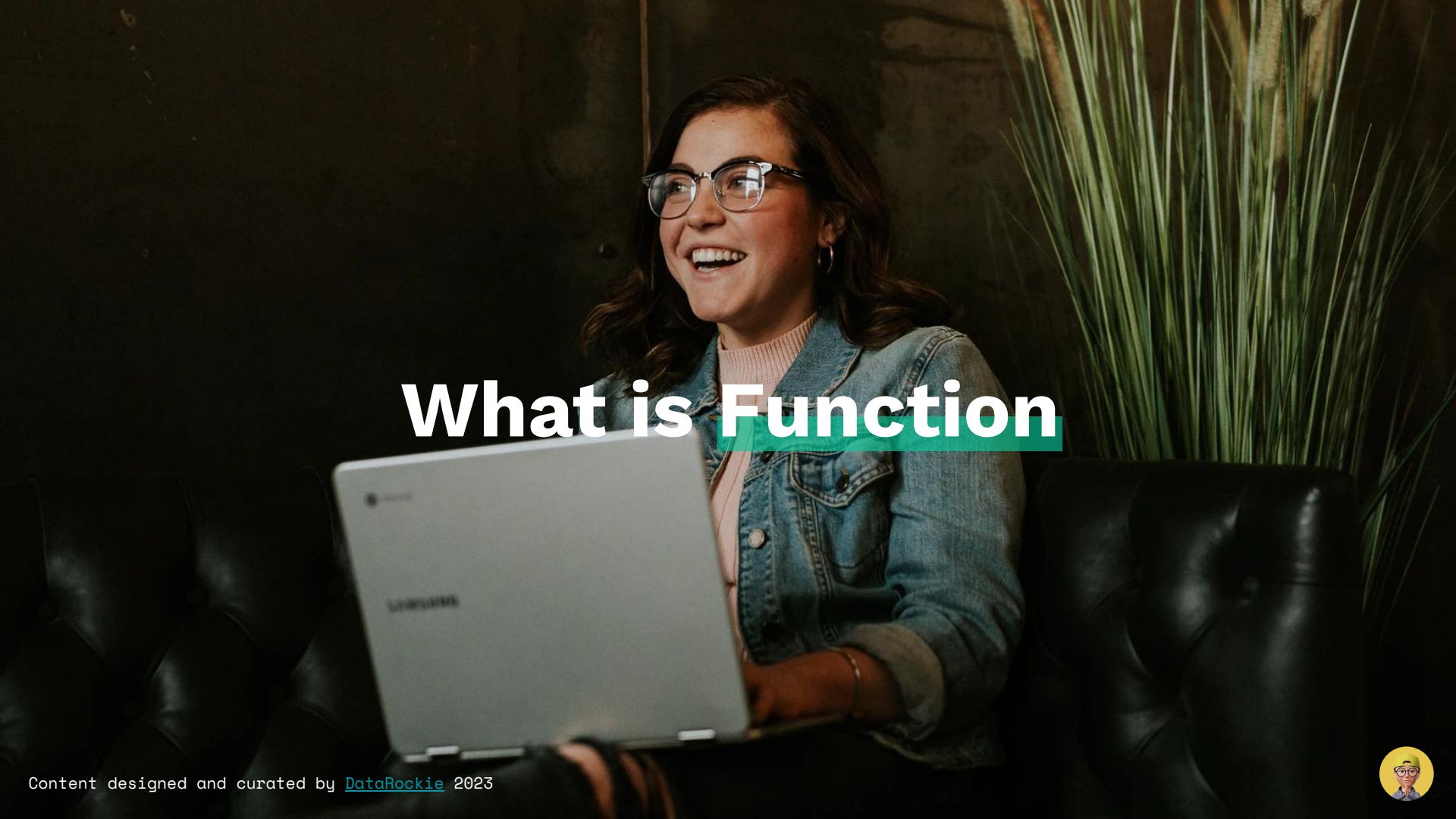
Manager

Officer

SVP

พิลเตอร์ข้อมูลด้วยเงื่อนไขที่
เราต้องการ



A woman with glasses and a denim jacket is smiling while looking at a laptop screen. She is sitting on a dark couch with a potted plant in the background.

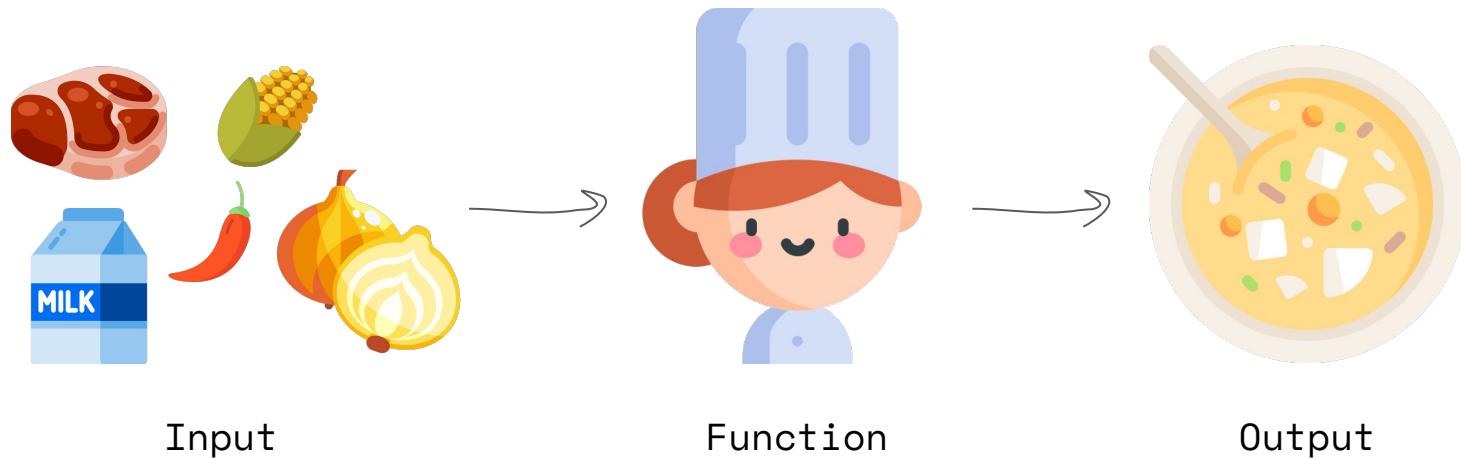
What is Function



What is function?



How functions work



Function anatomy

Function
name

Required

```
=function(input1, [input2])
```

Optional



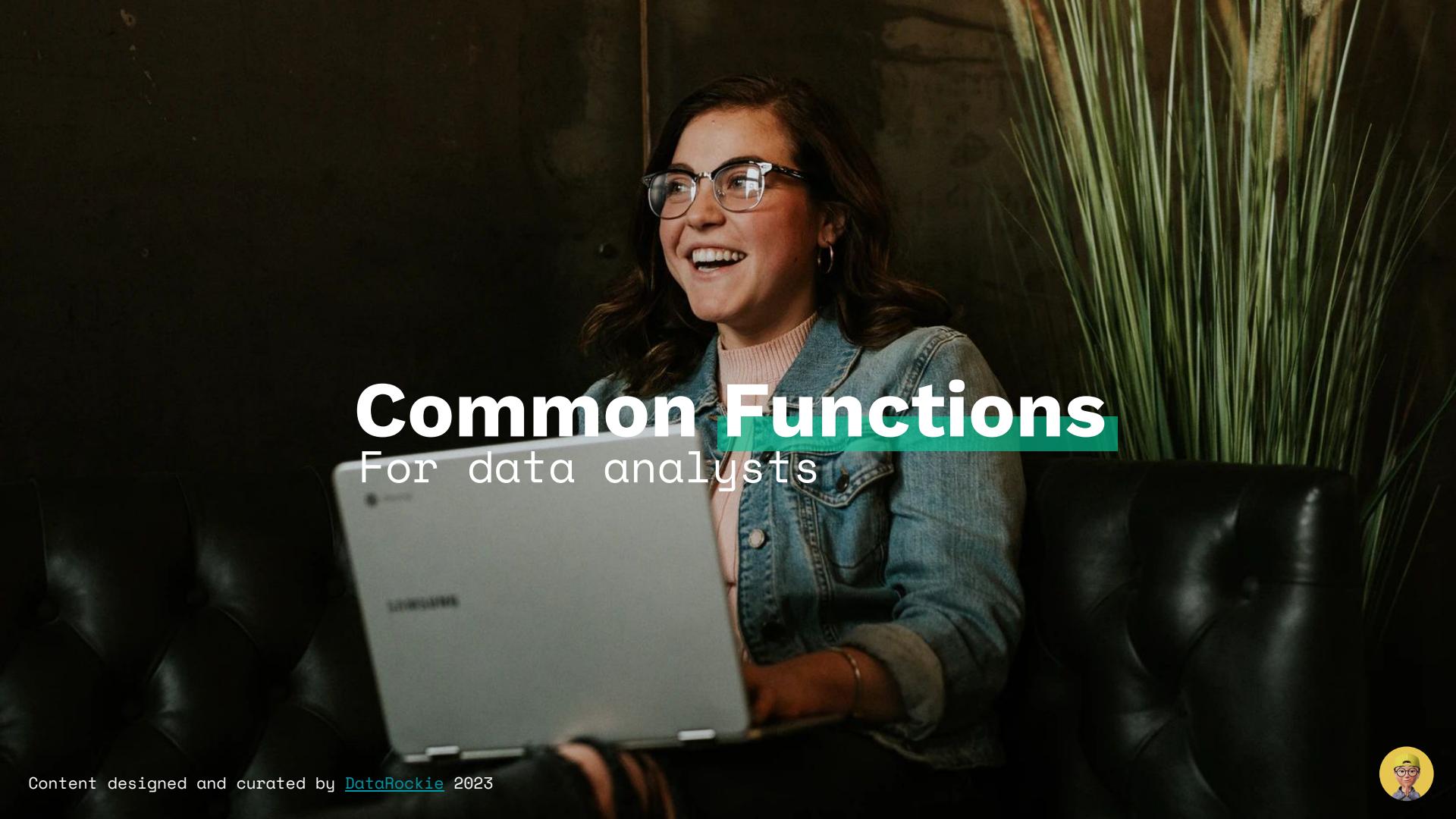
Legendary function

Function

Input

```
=IF(condition, TRUE, FALSE)
```



A photograph of a young woman with long brown hair and glasses, smiling broadly. She is wearing a light blue denim jacket over a pink turtleneck sweater. She is sitting on a dark leather sofa, looking at a silver laptop. To her right is a large potted plant with long, thin green leaves. The background is dark and out of focus.

Common Functions

For data analysts



Common functions

- ❑ IF()
- ❑ COUNTIF()
- ❑ IFS()
- ❑ SUMIF()
- ❑ COUNT()
- ❑ AVERAGEIF()
- ❑ SUM()
- ❑ FILTER()
- ❑ AVERAGE()
- ❑ SORT()
- ❑ VLOOKUP()
- ❑ QUERY() * only in Google Sheets



Create Condition

```
=IF( salary > 50000, "manager",  
"junior")
```

เงื่อนไข



Create Multiple Conditions

```
=IFS( salary > 50000, "CEO",  
      salary > 30000, "manager",  
      salary <= 30000, "junior")
```



Simple Analysis Functions

=COUNTA(employee)

=MIN(salary)

=MAX(salary)

=AVERAGE(salary)

=SUM(salary)



Getting Data From Multiple Tables

EMP_ID	Name	Dept
1	Toy	DATA
2	John	HR
3	Mary	MKT

EMPLOYEE

EMP_ID	Salary	Branch
1	25000	Bangkok
2	50000	Seoul
3	35000	Seoul

COMPENSATION



EMP_ID	Name	Dept	Salary	Branch
1	Toy	DATA	=VLOOKUP(B4,COMPENSATION,2,FALSE)	
2	John	HR	VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])	
3	Mary	MKT		35000

EMP_ID	Salary	Branch
1	25000	Bangkok
2	50000	Seoul
3	35000	Seoul



VLOOKUP

```
=VLOOKUP(  
    EMP_ID , COMPENSATION , 2 , FALSE)  
)
```

EMP_ID	Name	Dept	Salary	Branch
1	Toy	DATA	25000	Bangkok
2	John	HR	50000	Seoul
3	Mary	MKT	35000	Seoul



VLOOKUP = JOIN in SQL

```
SELECT *
FROM employee
JOIN compensation
ON employee.emp_id = compensation.emp_id;
```



A woman with long brown hair and glasses is smiling broadly while looking at a laptop screen. She is wearing a denim jacket over a pink turtleneck. The background is dark and out of focus, showing some foliage.

Named Ranges





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Insert

AutoSum ▾

Logical ▾

Lookup & Reference ▾

Recently Used ▾

Text ▾

Math & Trig ▾

Function

Financial ▾

Date & Time ▾

More Functions ▾

Function Library



Insert

Reset ▾

Diagnostics

Python ▾

Initialization

Python (Preview)



Name Manager



Use in Formula ▾

Create from Selection

Defined Names

ตั้งชื่อ Cell/ Range ในข้อมูลของเรา
ไว้ใช้ใน Formula ต่างๆ

Name Manager

[New...](#)[Edit...](#)[Delete](#)[Filter ▾](#)

Name	Value	Refers To	Scope	Comment
COMPENSATION	{"EMP_ID", "Salary", "Br...	=Sheet2!\$B\$9:\$D\$12	Workbook	
EMPLOYEE	{"EMP_ID", "Name", "De...	=Sheet2!\$B\$3:\$D\$6	Workbook	
Table1	{"Administrative ", "Ma...	=Sheet1!\$A\$2:\$E\$165	Workbook	



	G	H	I	J
1				
2	=EMPLOYEE		Dept	
3	1 Toy		DATA	
4	2 John		HR	
5	3 Mary		MKT	
6				



เขียนสูตรอ้างอิงชื่อที่เราตั้งไว้

	G	H	I	J
1				
2	=FILTER(EMPLOYEE, DEPT="DATA")			
3	FILTER(array, include, [if_empty])			

ผลลัพธ์ที่ได้

1 Toy

DATA



A woman with long brown hair and glasses is smiling while looking at a laptop screen. She is wearing a denim jacket over a pink turtleneck. The background is dark, with some green plants visible on the right.

Excel Table

How to manage data in Excel



AutoSave Off Book1 - Excel Search Kasidis Satangmongkol

File Home Insert Draw Page Layout Formulas Data Review View Developer Help Power Pivot Comments Share Catch up

Paste Clipboards Font Alignment Number Conditional Formatting Insert Sort & Filter Add-ins Analyze Data

A1 Officer

	A	B	C
1	Department	Rank	Salary
2	Administrative	Manager	Fixed Salary
3	Administrative	Officer	Fixed Salary
4	Administrative	Senior Vice President	Fixed Salary
5	Administrative	Vice President	Fixed Salary
6	Internal Audit	Senior Vice President	Fixed Salary
7	Internal Audit	Assistant Vice President	Fixed Salary
8	Internal Audit	Manager	Fixed Salary
9	Internal Audit	Deputy Manager	Incentive
10	Chiang Mai	Manager	Incentive
11	Chiang Mai	Officer	Fixed Salary
12	Chiang Mai	Officer	

CTRL + T

Create Table

Where is the data for your table? \$A\$1:\$D\$165

My table has headers

OK Cancel

Sheet1 +

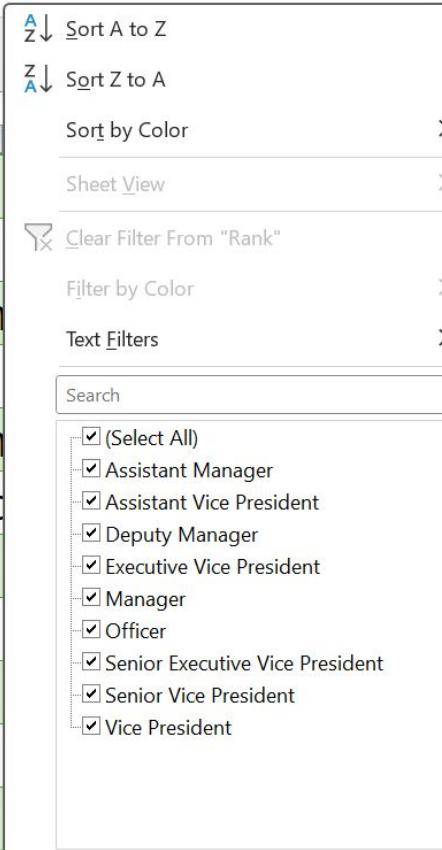
Display Settings

Accessibility: Good to go

90%

D3 fx Fixed Salary

	A	B
1	Department	Rank
2	Administrative	Manager
3	Administrative	Officer
4	Administrative	Senior Vice President
5	Administrative	Vice President
6	Internal Audit	Senior Vice President
7	Internal Audit	Assistant Vice President
8	Internal Audit	Manager
9	Internal Audit	Deputy Manager
10	Chiang Mai	Manager
11	Chiang Mai	Officer
12	Chiang Mai	Officer



D	E
entive	
ed Salary	
entive	
entive	
ed Salary	

Create New Column

สร้างคอลัมน์ใหม่ ง่ายๆ

เขียนสูตรปกติ

	A	B	C	D	E	F	G
1	Department	Rank	Salary	Incentive	New Salary		
2	Administrative	Manager	10000	Fixed Salary	=[@Salary]*1.20		
3	Administrative	Officer		Fixed Salary			
4	Administrative	Senior Vice President	15000	Fixed Salary			
5	Administrative	Vice President		Fixed Salary			
6	Internal Audit	Senior Vice President		Fixed Salary			
7	Internal Audit	Assistant Vice President		Fixed Salary			
8	Internal Audit	Manager		Fixed Salary			
9	Internal Audit	Deputy Manager		Fixed Salary			
10	Chiang Mai	Manager		Incentive			



A woman with long brown hair and glasses is smiling broadly while looking at a laptop screen. She is wearing a blue denim jacket over a pink turtleneck. The background is dark and out of focus, showing some green plants.

Core DA Concepts



Data analytics

- Dimension : category
- Measure : number



Example

Dimensions

Measures

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer Segment	Customer	Segment	Country	City	State	Postal Code	Region	Product ID	Category	Sub-Catag	Product Name	Sales	Quantity	Discount	Profit
2		1 CA-2016-1	11/8/2016	11/11/2016	Second Class	CG-12520	Claire Gutt	Consumer	United States	Henderson	Kentucky	42420	South	FUR-BO-1C	Furniture	Bookcases	Bush Somers	261.96	2	0	41.9136
3		2 CA-2016-1	11/8/2016	11/11/2016	Second Class	CG-12520	Claire Gutt	Consumer	United States	Henderson	Kentucky	42420	South	FUR-CH-1C	Furniture	Chairs	Hon Delux	731.94	3	0	219.582
4		3 CA-2016-1	6/12/2016	6/16/2016	Second Class	DV-13045	Darrin Van	Corporate	United States	Los Angeles	California	90036	West	OFF-LA-10	Office Sup	Labels	Self-Adhes	14.62	2	0	6.8714
5		4 US-2015-1	10/11/2015	10/18/2015	Standard	CSO-20335	Sean O'Do	Consumer	United States	Fort Lauderdale	Florida	33311	South	FUR-TA-1C	Furniture	Tables	Bretford C	957.5775	5	0.45	-383.031
6		5 US-2015-1	10/11/2015	10/18/2015	Standard	CSO-20335	Sean O'Do	Consumer	United States	Fort Lauderdale	Florida	33311	South	OFF-ST-10	Office Sup	Storage	Eldon Fold	22.368	2	0.2	2.5164
7		6 CA-2014-1	6/9/2014	6/14/2014	Standard	CBH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	FUR-FU-1C	Furniture	Furnishing	Eldon Express	48.86	7	0	14.1694
8		7 CA-2014-1	6/9/2014	6/14/2014	Standard	CBH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	OFF-AR-1C	Office Sup	Art	Newell 32"	7.28	4	0	1.9656
9		8 CA-2014-1	6/9/2014	6/14/2014	Standard	CBH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-1C	Technolog	Phones	Mitel 5320	907.152	6	0.2	90.7152
10		9 CA-2014-1	6/9/2014	6/14/2014	Standard	CBH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	OFF-BI-10	Office Sup	Binders	DXL Angle-	18.504	3	0.2	5.7825
11		10 CA-2014-1	6/9/2014	6/14/2014	Standard	CBH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	OFF-AP-10	Office Sup	Appliances	Belkin F5C	114.9	5	0	34.47
12		11 CA-2014-1	6/9/2014	6/14/2014	Standard	CBH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	FUR-TA-1C	Furniture	Tables	Chromcraft	1706.184	9	0.2	85.3092
13		12 CA-2014-1	6/9/2014	6/14/2014	Standard	CBH-11710	Brosina Hc	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-1C	Technolog	Phones	Konftel 25	911.424	4	0.2	68.3568
14		13 CA-2017-1	4/15/2017	4/20/2017	Standard	CAA-10480	Andrew All	Consumer	United States	Concord	North Carolina	28027	South	OFF-PA-10	Office Sup	Paper	Xerox 196	15.552	3	0.2	5.4432
15		14 CA-2016-1	12/5/2016	12/10/2016	Standard	CIM-15070	Irene Mad	Consumer	United States	Seattle	Washington	98103	West	OFF-BI-10	Office Sup	Binders	Fellowes P	407.976	3	0.2	132.5922
16		15 US-2015-1	11/22/2015	11/26/2015	Standard	CHP-14815	Harold Pav	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-AP-10	Office Sup	Appliances	Holmes Re	68.81	5	0.8	-123.858
17		16 US-2015-1	11/22/2015	11/26/2015	Standard	CHP-14815	Harold Pav	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-BI-10	Office Sup	Binders	Storex Dur	2.544	3	0.8	-3.816
18		17 CA-2014-1	11/11/2014	11/18/2014	Standard	CPK-19075	Pete Kriz	Consumer	United States	Madison	Wisconsin	53711	Central	OFF-ST-10	Office Sup	Storage	Stur-D-Sto	665.88	6	0	13.3176



Find total sales

one measure

1,500,000





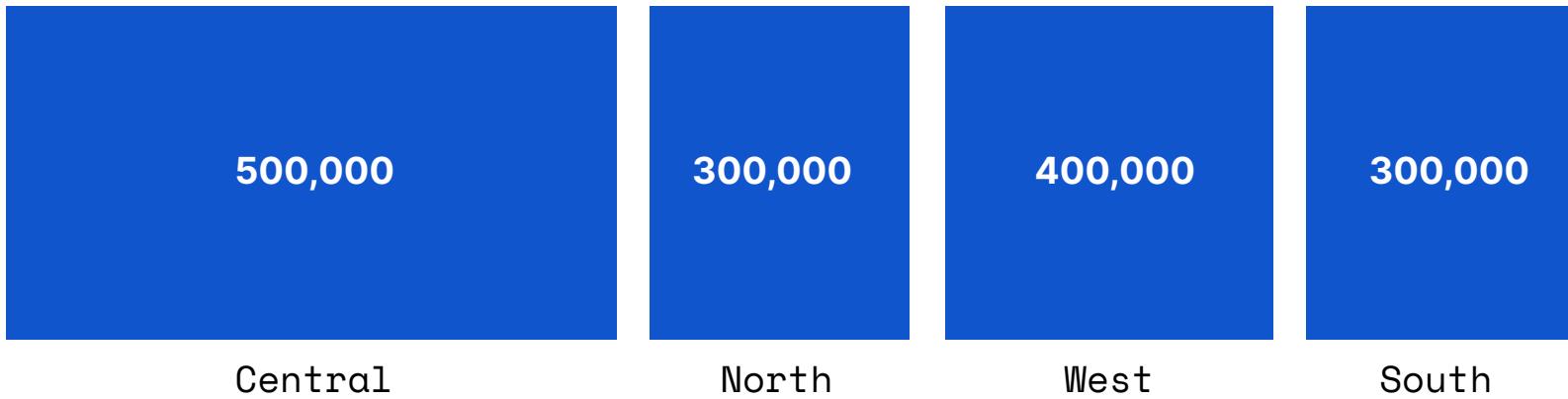
Slice and Dice

หั่นข้อมูล



Find total sales by region

one measure x one dimension



Reports

Basic formula

Rows: dimension
Values: measure

The screenshot shows a Microsoft Excel spreadsheet titled "sample_store.csv". The PivotTable is named "PivotTable1" and is currently displaying data with "City" as the Active Field. The PivotTable Fields pane is open, showing the following field settings:

- Filters:** None
- Columns:** Values
- Rows:** City
- Values:** Count of City, Sum of Sales

The data in the PivotTable is as follows:

	A	B	C	D	E	F	G	H
1								
2								
3	Row Labels	Count of City	Sum of Sales					
4	Aberdeen	1	25.5					
5	Abilene	1	1.392					
6	Akron	21	2729.986					
7	Albuquerque	14	2220.16					
8	Alexandria	16	5519.57					
9	Allen	4	290.206					
10	Allentown	7	853.252					
11	Altoona	2	20.451					
12	Amarillo	10	3773.0628					
13	Anaheim	27	7986.87					
14	Andover	4	435.85					
15	Ann Arbor	5	889.273					
16	Antioch	1	19.44					
17	Apopka	7	904.554					



A woman with long brown hair and glasses is smiling while sitting on a dark leather sofa, working on a silver laptop. She is wearing a blue denim jacket over a pink turtleneck. To her right is a large potted plant. The background is dark.

The PivotTable





Pivot Table คือเครื่องมือที่เราใช้สร้างรายงาน (Report) โดยไม่ต้องเขียนสูตร

A	B	C	D	E
Row Labels	Sum of Salary			
4 Senior Vice President	2487500			
5 Vice President	1681000			
6 Assistant Vice President	1524600			
7 Executive Vice President	1412000			
8 Manager	903000			
9 Senior Executive Vice President	830000			
10 Assistant Manager	535800			
11 Deputy Manager	498100			
12 Officer	265000			
13 Grand Total	10137000			
14				

Sheet2 Sheet1 +

PivotTable Fields

Choose fields to add to report:

Drag fields between areas below:

Search Filters

Dept
Role
Role_2
Salary
Fixed Salary
Education
More Tables...

Rows

Role

Values

Sum of Salary

Defer Layo... Update



AutoSave Off practice_hr_data... • Saved to this PC Search Kasidis Satangmongkol

File Insert Home Draw Page Layout Formulas Data Review View Help

PivotTable Recommended PivotTables Table Illustrations Recommended Charts Charts Maps PivotChart 3D Map Tours Sparklines Line Column Win/Loss Slicer Timeline Link Comment Text Symbols

From Table/Range From External Data Source From Data Model

NAME

	JOB_TITLE	POSITION	SALARY	BONUS	INCENTIVE	DEGREE	MAJOR	BIRTH_DATE	HIRE_DATE	
1	1 Toy	Marketing Manager	Back	90000	15000	Fixed	Bachelor	Marketing	1988-05-01	2020-02-01
2	2 John	Marketing Officer	Back	25000	5000	Incentive	Bachelor	Marketing	1995-02-17	2019-11-14
3	3 Mary	Marketing Officer	Back	30000	6000	Incentive	Bachelor	Economics	1984-11-16	2005-11-07
4	4 David	Marketing AVP	Back	125000	25000	Fixed	Master	Computer	1990-06-03	2020-04-04
5	5 Anna	Marketing SVP	Front	160000	2					
6	6 Kevin	Sales Officer	Front	35000						
7	7 Mark	Sales Officer	Front	32000						
8	8 Nami	Sales SVP	Front	185000						
9	9 Lufy	Finance Officer	Back	28000	2500	Fixed	Bachelor	Management	1982-06-06	2005-09-26
10	10 Sunji	Finance SVP	Back	178000	30000	Fixed	Bachelor	Finance	1979-10-22	2003-11-11
11	11 Zoro	HR Officer	Back	32000	5000	Incentive	Bachelor	Human Re	1985-01-27	2014-08-26
12	12 Uzop	HR Officer	Back	45000	6800	Fixed	Bachelor	Social Scie	1993-10-01	2023-05-28
13	13 Garf	HR AVP	Back	148000	25000	Fixed	Bachelor	Social Scie	1988-08-11	2017-09-01
14	14 Mihawk	CEO Officer CEO	Back	250000	50000	Fixed	Bachelor	Marketing	1992-03-04	2015-04-20
15	15 Jennifer	CEO Officer SVP	Back	180000	34000	Fixed	Bachelor	Finance	1996-06-24	2020-05-19
16	16 Kim	Data Scier Officer	Front	30000	2000	Incentive	Bachelor	Engineerin	1989-10-04	2020-07-18
17	17 Liam	Data Scier Officer	Front	25000	2500	Incentive	Master	Engineerin	1982-09-19	2006-12-05
18	18 Wick	Data Scier Manager	Front	80000	8000	Fixed	Master	Engineerin	1990-12-05	2011-09-12
19	19 Bean	Data Scier SVP	Back	175000	40000	Fixed	Master	Statistics	1998-11-19	2020-10-13
20	20 Beck	Data Scier AVP	Back	140000	38000	Fixed	Master	Data Scier	1983-06-04	2004-03-12
21										
22										
23										
24										

EMPLOYEE +

Display Settings

Content designed and curated by [DataRockie](#) 2023



PivotTable Fields

Choose fields to add to report:

Search

EMP_ID
 NAME
 DEPT
 JOB_TITLE
 POSITION
 SALARY
 BONUS
 INCENTIVE
 DEGREE
 MAJOR
 BIRTH_DATE
 HIRED_DATE

More Tables...

Drag fields between areas below:

Filters

Columns

Rows

DEPT

Σ Values

Sum of SALARY

Defer Layo...

Row Labels	Sum of SALARY
CEO Office	430000
Data Science	450000
Finance	206000
HR	225000
Marketing	430000
Sales	252000
Grand Total	1993000



A photograph of a young woman with long brown hair and glasses, smiling broadly. She is wearing a denim jacket over a pink turtleneck sweater. She is sitting in a dark leather armchair, looking at a silver laptop. To her right is a large potted plant with long, thin green leaves. The background is dark and out of focus.

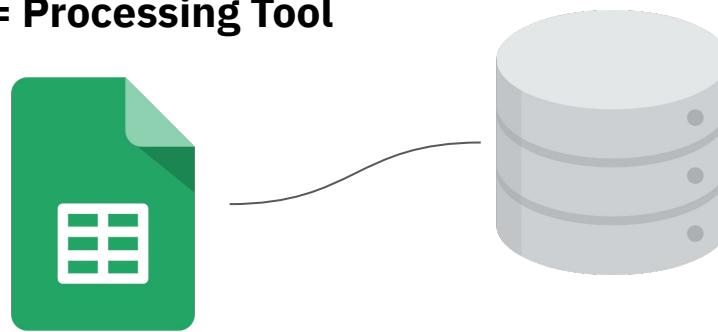
Professional Workflow



DEMO : Professional Workflow



Excel = Processing Tool



เราใช้ Excel ต่อไปที่ **Data Source** และดึงเข้ามา
วิเคราะห์ในโปรแกรม



DEMO : Professional Workflow

1. **Connect** เชื่อมต่อข้อมูล
2. **Prepare** เตรียมข้อมูล
3. **Load** โหลดเข้า Excel (Model)
4. **Analyze** วิเคราะห์

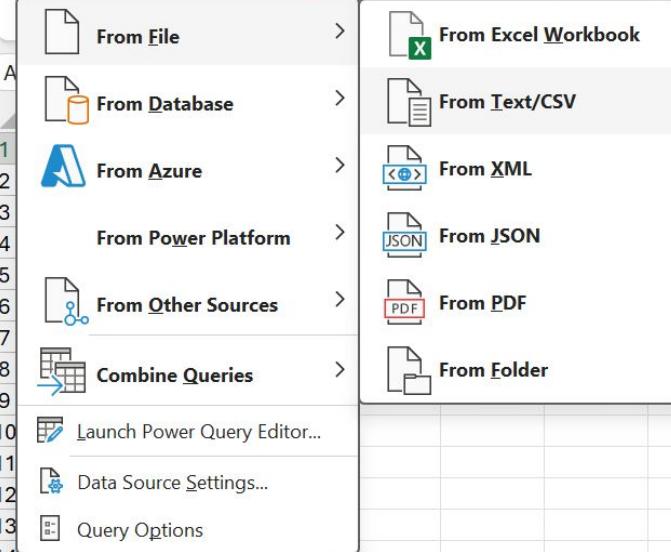
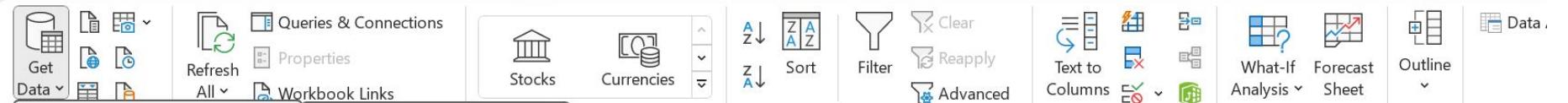




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Comments

Share



A woman with long brown hair and glasses is smiling broadly while looking at a laptop screen. She is wearing a light blue denim jacket over a pink turtleneck. The background is dark and out of focus, showing some green plants.

Key Takeaway



สรุปการเรียนวันนี้ □

- Excel สามารถทำงานได้หลายอย่างมากๆ
- ตั้งแต่เตรียมข้อมูล วิเคราะห์ นำเสนอผลลัพธ์
- ฝึกเขียน =FUNCTION() ยิ่งรู้จักฟังก์ชันเยอะ ยิ่งทำงานได้เยอะขึ้น
- ใช้ Pivot Table เพื่อสรุปผลการรายงานแบบไม่ต้องเขียนสูตรให้เมื่อยมือ
- เลือกใช้เครื่องมือให้เหมาะสมกับงาน



Excel ไม่ใช่ Database

Database เราเรียนกันวัน
พรุ่งนี้ ยังงงง 555+



Let's Connect □



Kasidis Satangmongkol
Digital Analytics Manager
Bangkok City, Thailand · [Contact info](#)
<https://datarockie.com>
9,055 followers · 500+ connections

<https://www.linkedin.com/in/kasidistou/>



Your Feedback is A Gift

สำหรับคลาส Microsoft Excel วันแรก เรียนเป็นยังไงบ้าง แขกรับ看了一้วยกันน้อยมากครับทุกคน ขอบคุณใจรบกวน เนื้อหาล้วนใหญ่ที่มีประโยชน์มาก อย่างรู้เรื่องอะไรเพิ่มเติมลึก บวกแอดได้เลียนครับ

แอดอ่านเองทุก comment เลย และจะนำไปใช้ปรับปรุงเนื้อหา และการสอนครั้งต่อๆไปด้วยครับ (หรืออาจจะมีนัดสอนเพิ่ม อีก 555+)

ขอบคุณทุกคนสำหรับ Day One พักผ่อนกันด้วยนะครับ

[Complete and Continue >](#)

Discussion

Post a comment



Instructor

แซร์ **feedback** การเรียน
วันแรกให้แอดหน่อยน้า

[Post Comment](#)



A photograph of a young woman with long brown hair and glasses, smiling and looking towards the camera. She is wearing a denim jacket over a pink turtleneck sweater and is sitting on a dark leather couch. A silver laptop is open on her lap. In the background, there is a large potted plant with long, thin green leaves.

Mini Data Bootcamp

Day One - Microsoft Excel 101

