Cleaning text data

DATA ANALYSIS IN EXCEL

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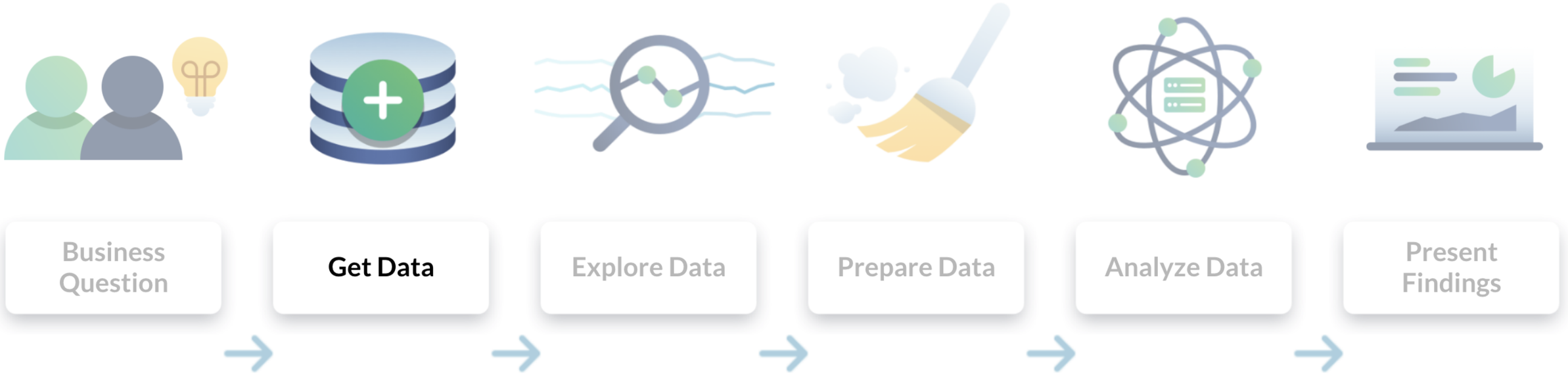
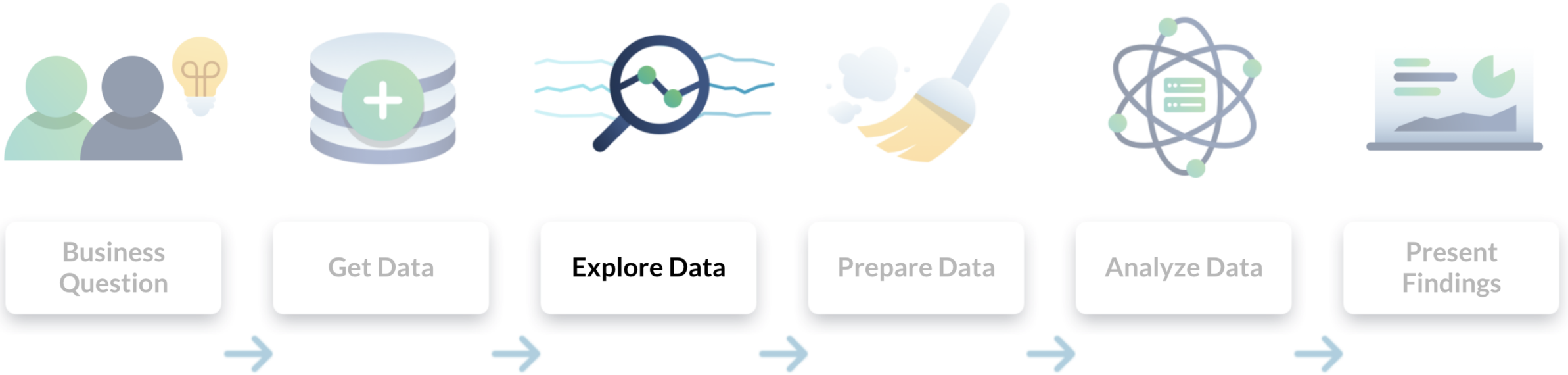
Data analysis process review

Business Question → Get Data → Explore Data → Prepare Data → Analyze Data → Present Findings

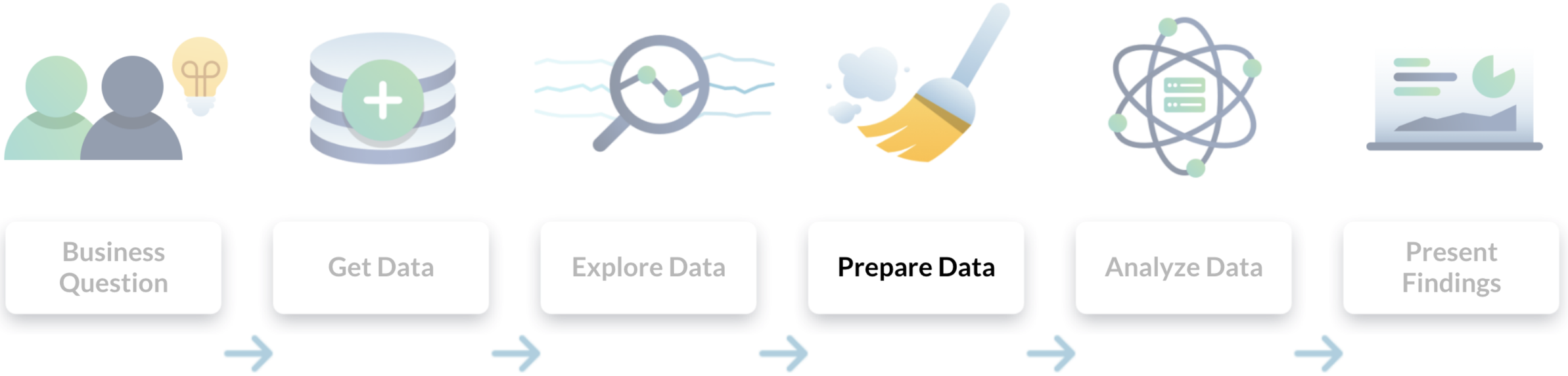
Data analysis process review



Data analysis process review



Data analysis process review



Concatenating text strings

	A	B	C
1	First Name	Last Name	Full Name
2	Ryan	Ahmed	Ryan Ahmed
3	Martynas	Anees	Martynas Anees
4	Catherine	Jonan	Catherine Jonan
5	Jeremy Ryan	Gharavi	Jeremy Ryan Gharavi
6	Marie	Kalmey	Marie Kalmey
7	Nicola	Lyu	Nicola Lyu

CONCATENATE() function syntax

Syntax:

```
=CONCATENATE(value1, [value2],...)
```

Example:

```
=CONCATENATE(A2,B2)
```

	A	B	C
1	id	name	CONCATENATE
2	952844010	Hydrate Edge | Hydration Monitoring Wearable (Canceled)	=CONCATENATE(A2,B2)
3	1299500496	Flyfit - Smart Ankle Tracker For Fitness, Cycling & Swimming	1299500496Flyfit - Smart Ankle Tracker For Fitness, Cycling & Swimming
4	1613449735	KOR-FX Gaming Vest: 4DFX Haptic Feedback System	1613449735KOR-FX Gaming Vest: 4DFX Haptic Feedback System
5	273890115	ProfileMyRun: Run the Right Way, Run the Natural Way	273890115ProfileMyRun: Run the Right Way, Run the Natural Way
6	353045033	365 DAZE - Apple Watch minimal wallpapers	353045033365 DAZE - Apple Watch minimal wallpapers
7	159764729	KYMIRA Sport: The Most Advanced Reactive Sports Apparel	159764729KYMIRA Sport: The Most Advanced Reactive Sports Apparel
8	906749645	UV Anti-Cancer Melanoma Skin Protection James Prattas Co	906749645UV Anti-Cancer Melanoma Skin Protection James Prattas Co
9	661560435	DAZLN: NFC Nails that Light Up Holiday Parties!	661560435DAZLN: NFC Nails that Light Up Holiday Parties!

CONCATENATE() improved

Example:

```
=CONCATENATE(A2," - ",B2)
```

	A	B	C
1	id	name	CONCATENATE improved
2	952844010	Hydrate Edge | Hydration Monitoring Wearable (Canceled)	=CONCATENATE(A2," - ",B2)
3	1299500496	Flyfit - Smart Ankle Tracker For Fitness, Cycling & Swimming	1299500496 - Flyfit - Smart Ankle Tracker For Fitness, Cycling & Swimming
4	1613449735	KOR-FX Gaming Vest: 4DFX Haptic Feedback System	1613449735 - KOR-FX Gaming Vest: 4DFX Haptic Feedback System
5	273890115	ProfileMyRun: Run the Right Way, Run the Natural Way	273890115 - ProfileMyRun: Run the Right Way, Run the Natural Way
6	353045033	365 DAZE - Apple Watch minimal wallpapers	353045033 - 365 DAZE - Apple Watch minimal wallpapers
7	159764729	KYMIRA Sport: The Most Advanced Reactive Sports Apparel	159764729 - KYMIRA Sport: The Most Advanced Reactive Sports Apparel
8	906749645	UV Anti-Cancer Melanoma Skin Protection James Prattas Co	906749645 - UV Anti-Cancer Melanoma Skin Protection James Prattas Co
9	661560435	DAZLN: NFC Nails that Light Up Holiday Parties!	661560435 - DAZLN: NFC Nails that Light Up Holiday Parties!

LOWER(), UPPER(), and PROPER() functions

Syntax:

```
=LOWER(text1)
```

Syntax:

```
=UPPER(text1)
```

Syntax:

```
=PROPER(text1)
```

Output

	A	B	C	D
1	city	LOWER	UPPER	PROPER
2	Salt Lake City	salt lake city	SALT LAKE CITY	Salt Lake City
3	San Francisco	san francisco	SAN FRANCISCO	San Francisco
4	Cambridge	cambridge	CAMBRIDGE	Cambridge
5	Palo Alto	palo alto	PALO ALTO	Palo Alto
6	Toronto	toronto	TORONTO	Toronto
7	Reading	reading	READING	Reading
8	Captain Cook	captain cook	CAPTAIN COOK	Captain Cook
9	Hong Kong	hong kong	HONG KONG	Hong Kong
10	San Diego	san diego	SAN DIEGO	San Diego

Let's practice!

DATA ANALYSIS IN EXCEL

Extracting text from cells

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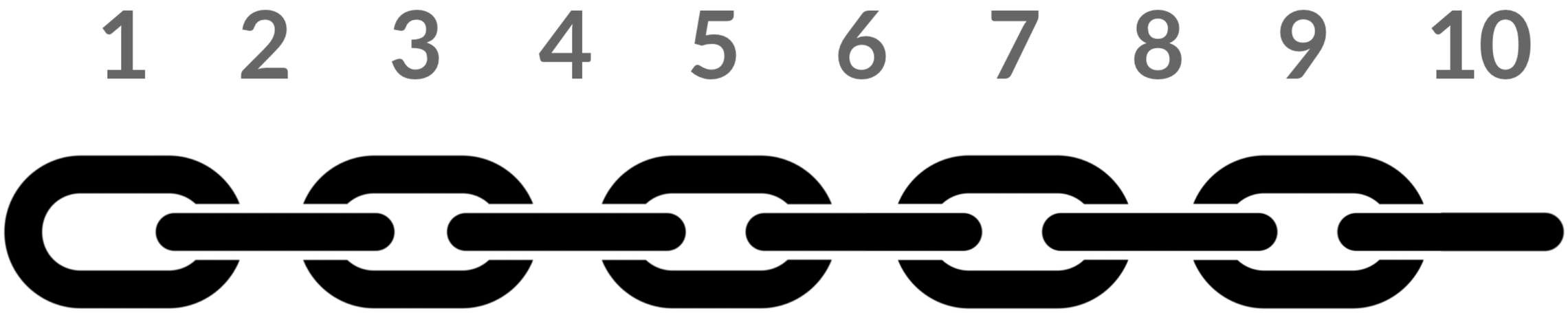
What is a string?



Counting characters

LEN() function syntax

Syntax:

```
=LEN(text)
```

Example:

```
=LEN("3D My Kicks - 3Dmykicks.com")
```

or

```
=LEN(B2)
```

Extracting text

{3D My Kicks} - 3Dmykicks.com

LEFT() function syntax

Syntax:

```
=LEFT(text,number_of_characters)
```

Example:

```
=LEFT(B2,LEN("3D My Kicks"))
```

	B	C
1	name	LEFT and LEN
2	3D My Kicks - 3Dmykicks.com	3D My Kicks

Extracting text continued

	M
1	state
2	UT,"type"
3	CA,"type"
4	MA,"type"
5	CA,"type"
6	ON,"type"
7	England,"type"
8	HI,"type"
9	Hong Kong Island,"type"
10	CA,"type"
11	AZ,"type"
12	LA,"type"

What is the length of the bad string?

```
=LEN(",'type'")
```

result: 7

Nesting LEFT() and LEN()

Example

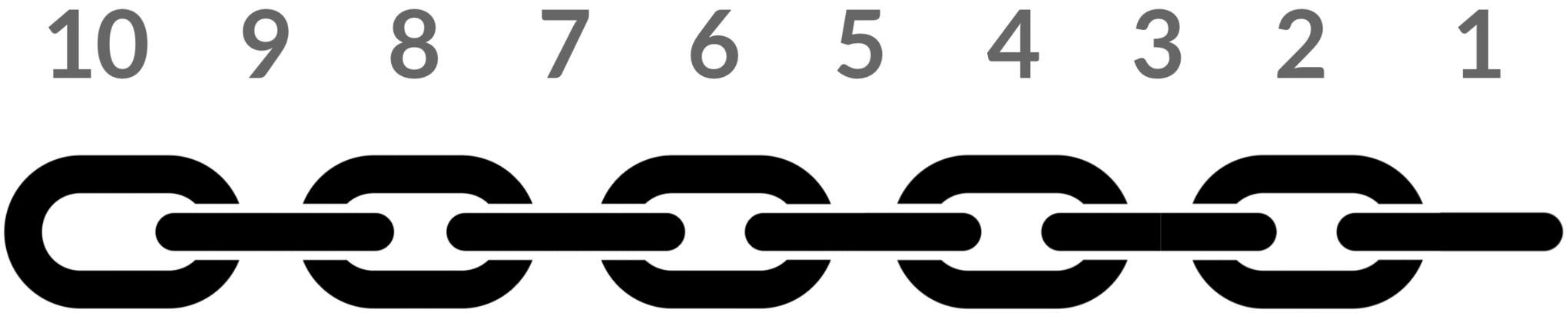
```
=LEFT(M2,LEN(M2)-7)
```

	M	N
1	state	LEFT and LEN combined
2	UT,"type"	=LEFT(M2,LEN(M2)-7)
3	CA,"type"	CA
4	MA,"type"	MA
5	CA,"type"	CA
6	ON,"type"	ON
7	England,"type"	England
8	HI,"type"	HI
9	Hong Kong Island,"type"	Hong Kong Island
10	CA,"type"	CA
11	AZ,"type"	AZ
12	LA,"type"	LA
13	CT,"type"	CT
14	IN,"type"	IN

RIGHT() function syntax

Syntax:

```
=RIGHT(text,number_of_characters)
```



Replacing text

	B
1	name
2	Hydrate Edge | Hydration Monitoring Wearable (Canceled)
3	Flyfit - Smart Ankle Tracker For Fitness, Cycling & Swimming
4	KOR-FX Gaming Vest: 4DFX Haptic Feedback System
5	ProfileMyRun: Run the Right Way, Run the Natural Way
6	365 DAZE - Apple Watch minimal wallpapers
7	KYMIRA Sport: The Most Advanced Reactive Sports Apparel
8	UV Anti-Cancer Melanoma Skin Protection James Prattas Co
9	DAZLN: NFC Nails that Light Up Holiday Parties!
10	Vivir Wearable Technology - Heated Fitness Apparel
11	jmpLite - The first human powered safety light for runners
12	3D My Kicks - 3dmykicks.com

SUBSTITUTE() function syntax

Syntax:

```
=SUBSTITUTE(text, old_text, new_text, [instance])
```

Example:

```
=SUBSTITUTE(B2,":","-")
```

Output

	B	C
1	name	SUBSTITUTE
2	Hydrate Edge | Hydration Monitoring Wearable (Canceled)	=SUBSTITUTE(B2,":","-")
3	Flyfit - Smart Ankle Tracker For Fitness, Cycling & Swimming	Flyfit - Smart Ankle Tracker For Fitness, Cycling & Swimming
4	KOR-FX Gaming Vest: 4DFX Haptic Feedback System	KOR-FX Gaming Vest- 4DFX Haptic Feedback System
5	ProfileMyRun: Run the Right Way, Run the Natural Way	ProfileMyRun- Run the Right Way, Run the Natural Way
6	365 DAZE - Apple Watch minimal wallpapers	365 DAZE - Apple Watch minimal wallpapers
7	KYMIRA Sport: The Most Advanced Reactive Sports Apparel	KYMIRA Sport- The Most Advanced Reactive Sports Apparel
8	UV Anti-Cancer Melanoma Skin Protection James Prattas Co	UV Anti-Cancer Melanoma Skin Protection James Prattas Co
9	DAZLN: NFC Nails that Light Up Holiday Parties!	DAZLN- NFC Nails that Light Up Holiday Parties!
10	Vivir Wearable Technology - Heated Fitness Apparel	Vivir Wearable Technology - Heated Fitness Apparel
11	jmpLite - The first human powered safety light for runners	jmpLite - The first human powered safety light for runners
12	3D My Kicks - 3dmykicks.com	3D My Kicks - 3dmykicks.com

Let's practice!

DATA ANALYSIS IN EXCEL

Preparing date data

DATA ANALYSIS IN EXCEL

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Interpreting date analysis requests

Look at the project data by date

- Data by launch date?
- How long a project campaign ran?
- Trends by year, month, day of the week?

Month of La..	
January	6
February	9
March	6
April	6
May	6
June	10
July	7
August	12
September	10
October	11
November	13
December	7

Project length

Syntax:

```
=deadline-launched_at
```

Example:

```
=E2-D2
```

	D	E	F
1	launched_at	deadline	Project Length
2	8/30/2016	10/14/2016	=E2-D2
3	2/13/2014	3/25/2014	40
4	6/9/2014	7/24/2014	45
5	10/10/2014	11/9/2014	30
6	10/19/2018	11/24/2018	36
7	8/17/2014	9/17/2014	31
8	10/5/2014	11/1/2014	27
9	11/4/2014	11/29/2014	25
10	1/26/2015	3/6/2015	39
11	11/4/2014	12/14/2014	40
12	10/31/2014	11/30/2014	30

Dynamic date and time entry

	E	F	G
1	deadline	NOW	TODAY
2	10/14/2016	1274.47	1274
3	3/25/2014	2208.47	2208
4	7/24/2014	2087.47	2087
5	11/9/2014	1979.47	1979
6	11/24/2018	503.47	503
7	9/17/2014	2032.47	2032
8	11/1/2014	1987.47	1987
9	11/29/2014	1959.47	1959
10	3/6/2015	1862.47	1862
11	12/14/2014	1944.47	1944

NOW() and TODAY() functions syntax

Syntax:

```
=NOW()
```

```
=TODAY()
```

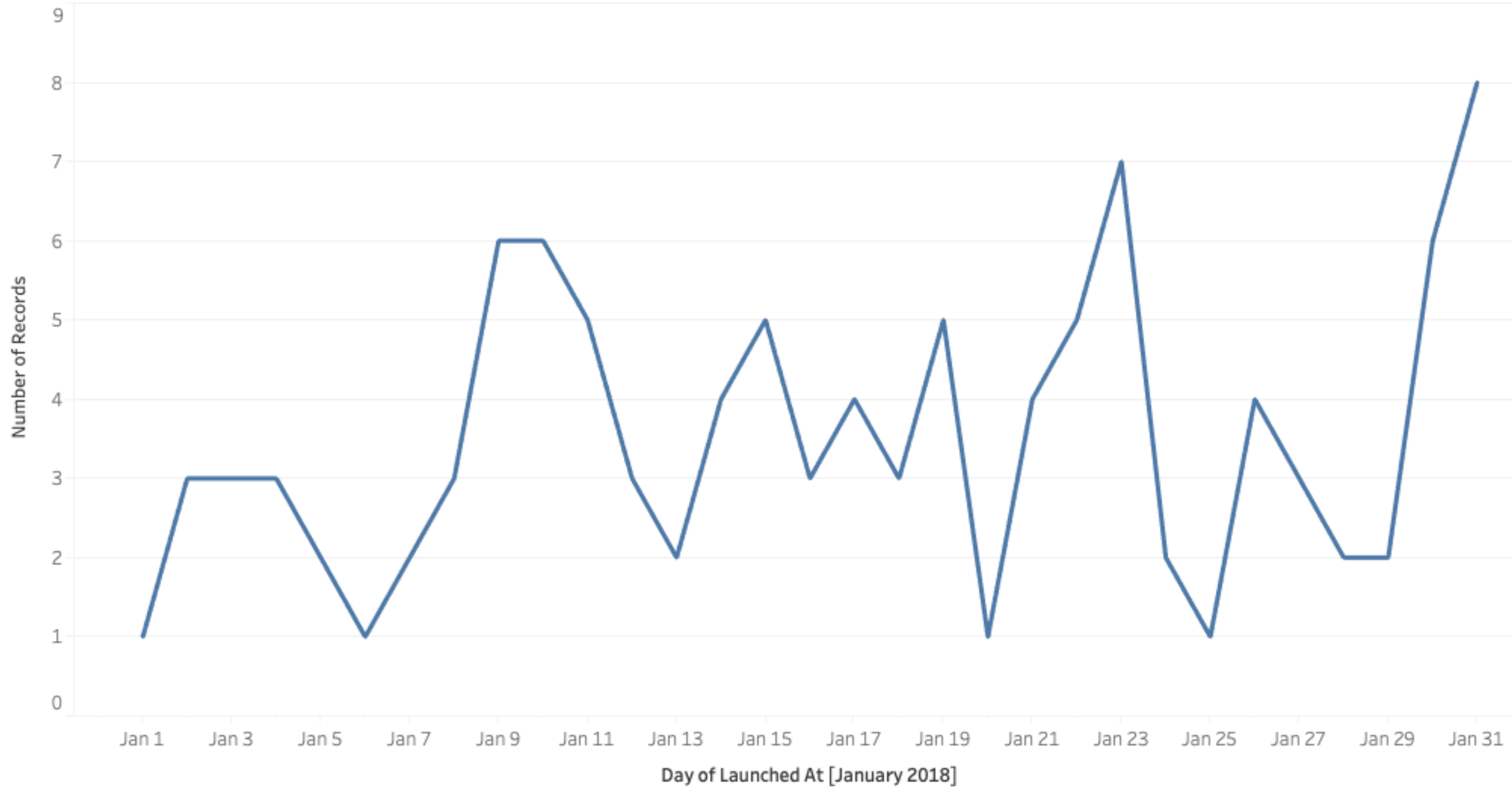
Example:

```
=NOW()-E2
```

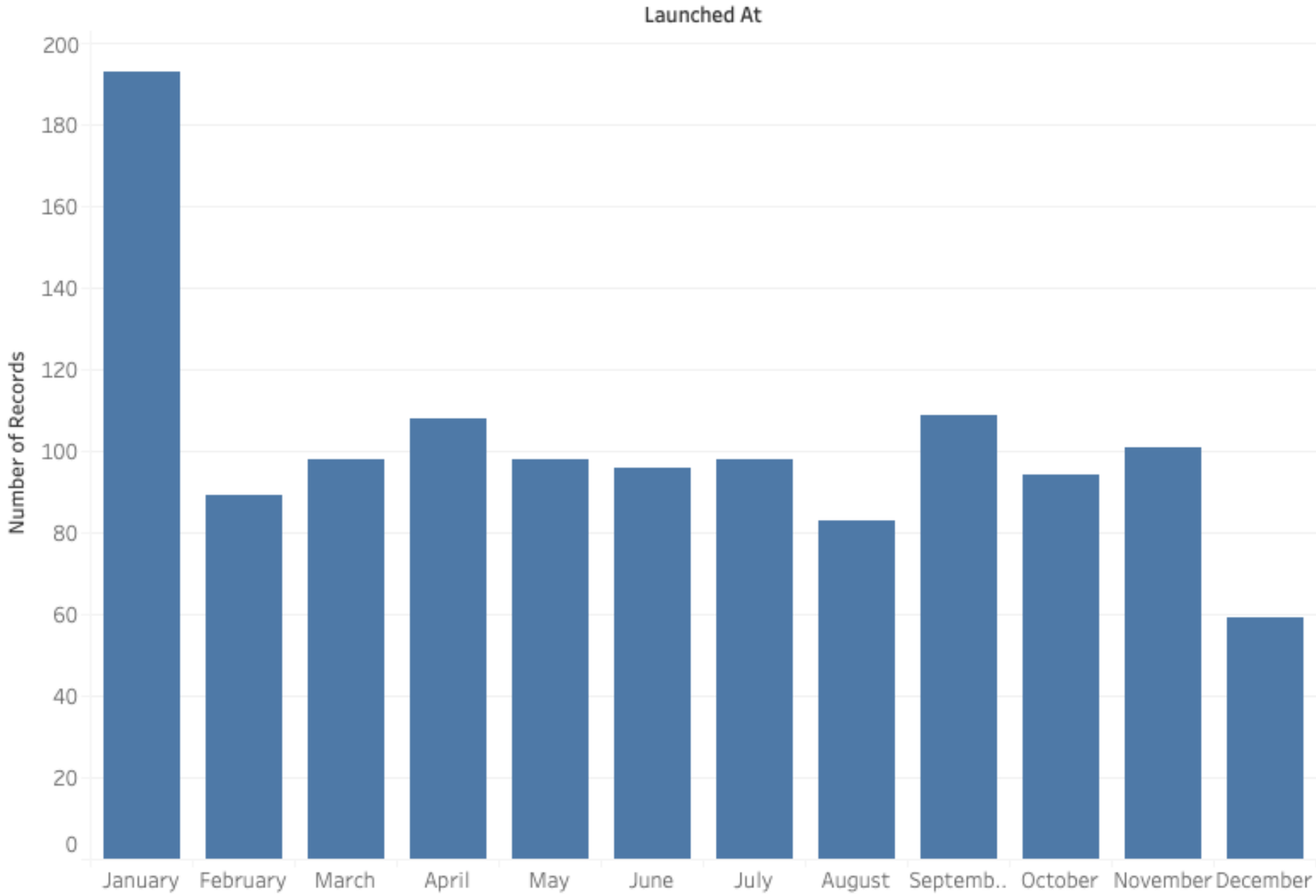
```
=TODAY()-E2
```

	E	F	G
1	deadline	NOW	TODAY
2	10/14/2016	1274.47	=TODAY()-E2
3	3/25/2014	2208.47	2208
4	7/24/2014	2087.47	2087
5	11/9/2014	1979.47	1979
6	11/24/2018	503.47	503
7	9/17/2014	2032.47	2032
8	11/1/2014	1987.47	1987
9	11/29/2014	1959.47	1959
10	3/6/2015	1862.47	1862
11	12/14/2014	1944.47	1944

Continuous vs discrete date analysis



Continuous vs discrete date analysis



Months and days of the week

	E	F	G
1	deadline	MONTH	WEEKDAY
2	10/14/2016	10	6
3	3/25/2014	3	3
4	7/24/2014	7	5
5	11/9/2014	11	1
6	11/24/2018	11	7
7	9/17/2014	9	4
8	11/1/2014	11	7
9	11/29/2014	11	7
10	3/6/2015	3	6
11	12/14/2014	12	1

MONTH() function syntax

Syntax:

```
=MONTH(date)
```

Example:

```
=MONTH(E2)
```

	E	F
1	deadline	MONTH
2	10/14/2016	=MONTH(E2)
3	3/25/2014	3
4	7/24/2014	7
5	11/9/2014	11
6	11/24/2018	11
7	9/17/2014	9
8	11/1/2014	11
9	11/29/2014	11
10	3/6/2015	3
11	12/14/2014	12

WEEKDAY() function syntax

Syntax:

`=WEEKDAY(date,[return_type])`

`return_type` options

- **1 or omitted**: Sunday (1) to Saturday (7)
- **2**: Monday (1) to Sunday (7)

Example:

`=WEEKDAY(E2,2)`

	E	F
1	deadline	WEEKDAY
2	10/14/2016	=WEEKDAY(E2)
3	3/25/2014	3
4	7/24/2014	5
5	11/9/2014	1
6	11/24/2018	7
7	9/17/2014	4
8	11/1/2014	7
9	11/29/2014	7
10	3/6/2015	6
11	12/14/2014	1

Let's practice!

DATA ANALYSIS IN EXCEL

The most important function in Excel

DATA ANALYSIS IN EXCEL

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VLOOKUP() introduction

	A	B	C	D	E
1	weekday_number	weekday_name		month_number	month_name
2	1	Monday		1	January
3	2	Tuesday		2	February
4	3	Wednesday		3	March
5	4	Thursday		4	April
6	5	Friday		5	May
7	6	Saturday		6	June
8	7	Sunday		7	July
9				8	August
10				9	September
11				10	October
12				11	November
13				12	December
14					
15					
16					
17					
18					

Date Tables | Kickstarter

VLOOKUP

VLOOKUP

VERTICAL

VLOOKUP() syntax

Syntax:

```
=VLOOKUP (lookup_value, table_array, col_num, [range_lookup])
```

- `lookup_value` : what you want to look up
- `table_array` : where you want to look for it
- `col_num` : the column number in the range containing the value to return
- `range_lookup` : return an approximate (`TRUE`) or exact match (`FALSE`)

Columns in common

	E	F	G
1	deadline	MONTH	Project Length
2	10/14/2016	10	45
3	3/25/2014	3	40
4	7/24/2014	7	45
5	11/9/2014	11	30
6	11/24/2018	11	36
7	9/17/2014	9	31
8	11/1/2014	11	27
9	11/29/2014	11	25
10	3/6/2015	3	39
11	12/14/2014	12	40
12	11/30/2014	11	30
13	1/6/2015	1	60
14	11/28/2014	11	30

Kickstarter | Date Tables

	D	E	F
1	month_number	month_name	
2	1	January	
3	2	February	
4	3	March	
5	4	April	
6	5	May	
7	6	June	
8	7	July	
9	8	August	
10	9	September	
11	10	October	
12	11	November	
13	12	December	
14			

Kickstarter | Date Tables

VLOOKUP() applied

Syntax:

```
=VLOOKUP (lookup_value, table_array,
col_num, [range_lookup])
```

Example:

```
=VLOOKUP(F2,'Date Tables'!D:E,2,FALSE)
```

	F	G
1	MONTH	VLOOKUP
2	10	=VLOOKUP(F2,'Date Tables'!D:E,2,FALSE)
3	3	March
4	7	July
5	11	November
6	11	November

Date Tables sheet:

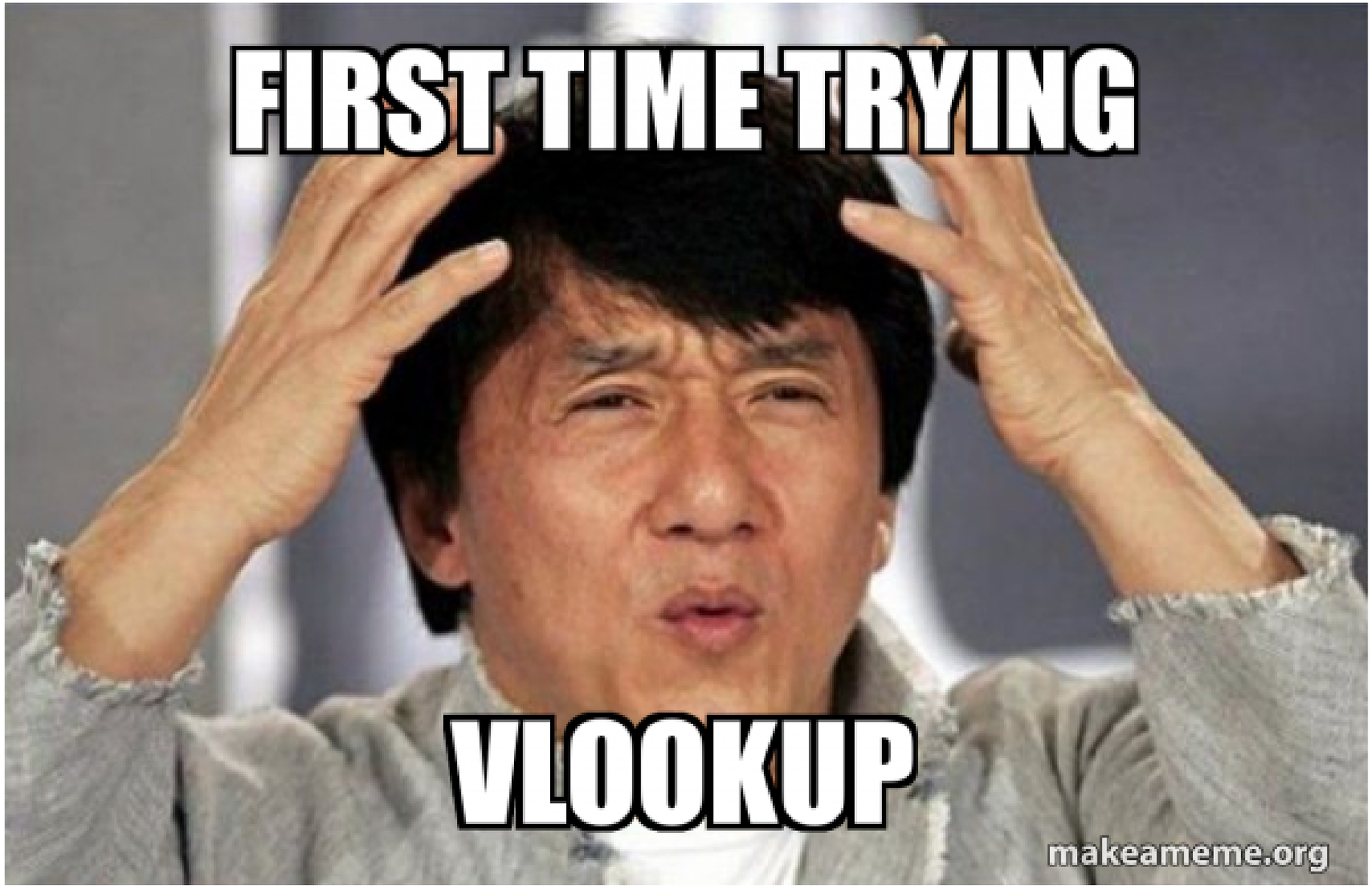
	D	E
1	month_number	month_name
2	1	January
3	2	February
4	3	March
5	4	April
6	5	May
7	6	June
8	7	July
9	8	August
10	9	September
11	10	October
12	11	November
13	12	December

VLOOKUP() and MONTH() combined

Nested Formula Example:

```
=VLOOKUP(MONTH(E2),'Date Tables'!D:E,2,FALSE)
```

	E	F
1	deadline	VLOOKUP
2	10/14/2016	=VLOOKUP(MONTH(E2),'Date Tables'!D:E,2,FALSE)
3	3/25/2014	March
4	7/24/2014	July
5	11/9/2014	November
6	11/24/2018	November
7	9/17/2014	September
8	11/1/2014	November
9	11/29/2014	November


FIRST TIME TRYING
VLOOKUP
makeameme.org

Let's practice!

DATA ANALYSIS IN EXCEL