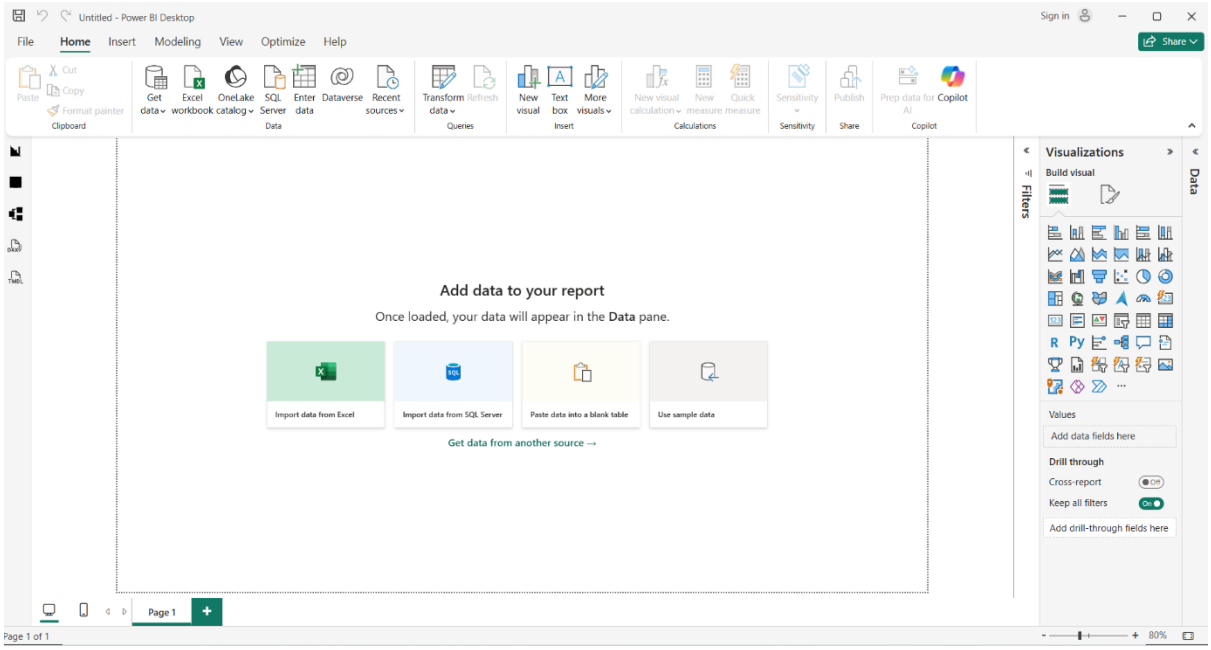
DATA CLEANING IN POWER BI [POWER QUERY]

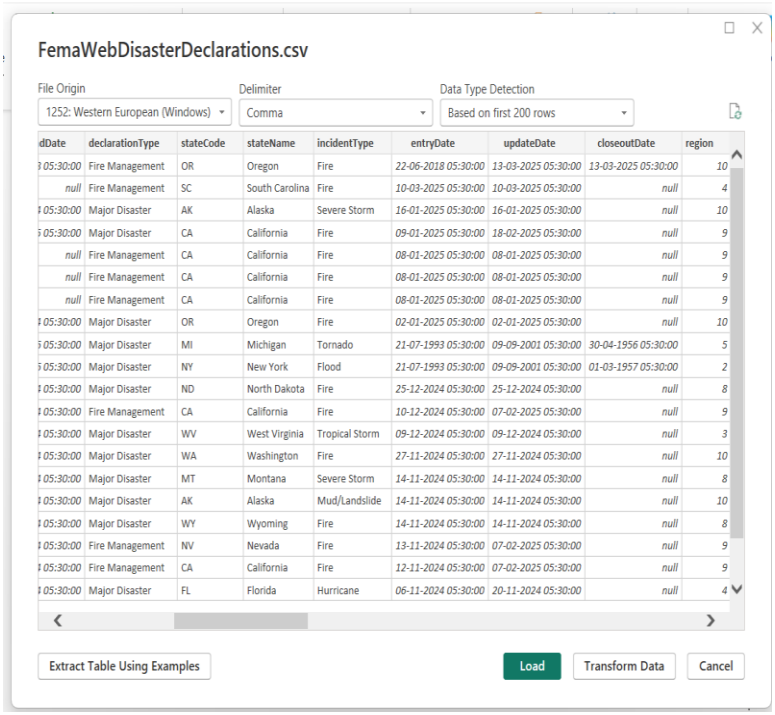


1.Power Bi Dashboard

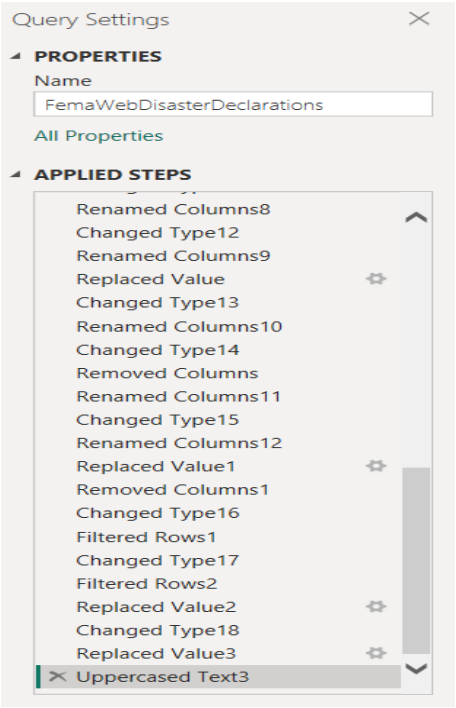
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
disasterNumber	declarationDate	disasterName	incidentBe	incidentEn	declaratio	stateCode	stateNam	incidentTy	entryDate	updateDat	closeoutD	region	ihProgram	iaProgram	paProgram	hmProgra	designated	dec
5243	2018-06-22T00:00:00.000Z	GRAHAM FIRE	2018-06-2	2018-06-2	Fire Mana	OR	Oregon	Fire	2018-06-2	2025-03-1	2025-03-1	10	0	0	1	1		201
5554	2025-03-07T00:00:00.000Z	COVINGTON DRIVE FIRE	2025-03-01	T00:00:00	Fire Mana	SC	South Car	Fire	2025-03-1	2025-03-10	T00:00:00	4	0	0	1	1	R	202
4859	2025-01-15T00:00:00.000Z	SEVERE STORM AND FLOODING	2024-10-2	2024-10-2	Major Dis	AK	Alaska	Severe Sto	2025-01-1	2025-01-16	T00:00:00	10	0	0	1	1	5,W	202
4856	2025-01-08T00:00:00.000Z	WILDFIRES AND STRAIGHT-LINE WINDS	2025-01-0	2025-01-3	Major Dis	CA	California	Fire	2025-01-0	2025-02-18	T00:00:00	9	1	0	1	1	2,R	202
5551	2025-01-08T00:00:00.000Z	HURST FIRE	2025-01-07	T00:00:00	Fire Mana	CA	California	Fire	2025-01-0	2025-01-08	T00:00:00	9	0	0	1	1	R	202
5550	2025-01-08T00:00:00.000Z	EATON FIRE	2025-01-07	T00:00:00	Fire Mana	CA	California	Fire	2025-01-0	2025-01-08	T00:00:00	9	0	0	1	1	R	202
5549	2025-01-07T00:00:00.000Z	PALISADES FIRE	2025-01-07	T00:00:00	Fire Mana	CA	California	Fire	2025-01-0	2025-01-08	T00:00:00	9	0	0	1	1	R	202
4854	2025-01-01T00:00:00.000Z	WILDFIRES	2024-07-1	2024-08-2	Major Dis	OR	Oregon	Fire	2025-01-0	2025-01-02	T00:00:00	10	0	0	1	1	R,W	202
53	1956-04-05T00:00:00.000Z	TORNADO	1956-04-0	1956-04-0	Major Dis	MI	Michigan	Tornado	1993-07-2	2001-09-0	1956-04-3	5	0	1	1	1		195
52	1956-03-29T00:00:00.000Z	FLOOD	1956-03-2	1956-03-2	Major Dis	NY	New York	Flood	1993-07-2	2001-09-0	1957-03-0	2	0	1	1	1		195
4852	2024-12-24T00:00:00.000Z	WILDFIRES AND STRAIGHT-LINE WINDS	2024-10-0	2024-10-0	Major Dis	ND	North Dak	Fire	2024-12-2	2024-12-25	T00:00:00	8	0	0	1	1	2,R	202
5548	2024-12-10T00:00:00.000Z	FRANKLIN FIRE	2024-12-1	2024-12-1	Fire Mana	CA	California	Fire	2024-12-1	2025-02-07	T00:00:00	9	0	0	1	1	R	202
4851	2024-12-09T00:00:00.000Z	POST-TROPICAL STORM HELENE	2024-09-2	2024-09-2	Major Dis	WV	West Virgi	Tropical St	2024-12-0	2024-12-09	T00:00:00	3	1	0	0	1	4	202
4849	2024-11-26T00:00:00.000Z	WILDFIRES	2024-07-1	2024-08-2	Major Dis	WA	Washingto	Fire	2024-11-2	2024-11-27	T00:00:00	10	0	0	1	1	R	202
4847	2024-11-14T00:00:00.000Z	SEVERE STORM AND STRAIGHT-LINE WI	2024-08-0	2024-08-0	Major Dis	MT	Montana	Severe Sto	2024-11-1	2024-11-14	T00:00:00	8	1	0	0	1	2,W	202
4846	2024-11-13T00:00:00.000Z	LANDSLIDES	2024-08-2	2024-08-2	Major Dis	AK	Alaska	Mud/Land	2024-11-1	2024-11-14	T00:00:00	10	0	0	1	1	M	202
4845	2024-11-13T00:00:00.000Z	WILDFIRES	2024-08-2	2024-08-3	Major Dis	WY	Wyoming	Fire	2024-11-1	2024-11-14	T00:00:00	8	0	0	1	1	R	202
5546	2024-11-11T00:00:00.000Z	CALLAHAN FIRE	2024-11-1	2024-11-1	Fire Mana	NV	Nevada	Fire	2024-11-1	2025-02-07	T00:00:00	9	0	0	1	1	R	202
5545	2024-11-06T00:00:00.000Z	MOUNTAIN FIRE	2024-11-0	2024-11-1	Fire Mana	CA	California	Fire	2024-11-1	2025-02-07	T00:00:00	9	0	0	1	1	R	202
4844	2024-11-05T00:00:00.000Z	HURRICANE MILTON	2024-10-0	2024-11-0	Major Dis	FL	Florida	Hurricane	2024-11-0	2024-11-20	T00:00:00	4	1	0	1	1	H	202
4843	2024-11-01T00:00:00.000Z	SEVERE STORM AND FLOODING	2024-10-1	2024-10-2	Major Dis	NM	New Mexi	Flood	2024-11-0	2024-11-01	T00:00:00	6	1	0	1	1	F	202
5544	2024-10-30T00:00:00.000Z	NORTH ROAD FIRE	2024-10-29	T00:00:00	Fire Mana	OK	Oklahoma	Fire	2024-10-3	2024-10-30	T00:00:00	6	0	0	1	1	R	202
5543	2024-10-30T00:00:00.000Z	EUCHEE CREEK FIRE	2024-10-29	T00:00:00	Fire Mana	OK	Oklahoma	Fire	2024-10-3	2024-10-30	T00:00:00	6	0	0	1	1	R	202
51	1956-03-15T00:00:00.000Z	FLOOD	1956-03-1	1956-03-1	Major Dis	PA	Pennsylva	Flood	1993-07-2	2001-09-0	1959-06-0	3	0	1	1	1		195
4841	2024-10-25T00:00:00.000Z	TROPICAL STORM ERNESTO	2024-08-1	2024-08-1	Major Dis	VI	Virgin Islar	Tropical St	2024-10-2	2024-10-25	T00:00:00	2	0	0	1	1	4,W	202
4840	2024-10-25T00:00:00.000Z	FLOODING	2024-08-2	2024-08-2	Major Dis	AZ	Arizona	Flood	2024-10-2	2024-10-25	T00:00:00	9	1	0	1	1	F	202
5542	2024-10-24T00:00:00.000Z	HAWTHORNE FIRE	2024-10-21	T00:00:00	Fire Mana	CT	Connectic	Fire	2024-10-2	2024-10-25	T00:00:00	1	0	0	1	1	R	202
4836	2024-10-16T00:00:00.000Z	FLOODING	2024-08-0	2024-08-0	Major Dis	AK	Alaska	Flood	2024-10-1	2024-10-16	T00:00:00	10	1	0	1	1	F	202
4834	2024-10-11T00:00:00.000Z	HURRICANE MILTON	2024-10-0	2024-11-0	Major Dis	FL	Florida	Hurricane	2024-10-1	2024-11-04	T00:00:00	4	1	0	1	1	F,H	202
5540	2024-10-06T00:00:00.000Z	BEAR DEN FIRE	2024-10-0	2024-10-2	Fire Mana	ND	North Dak	Fire	2024-10-1	2025-01-24	T00:00:00	8	0	0	1	1	R	202
4833	2024-10-04T00:00:00.000Z	WATCH FIRE	2024-07-1	2024-07-1	Major Dis	AZ	Arizona	Fire	2024-10-0	2024-10-04	T00:00:00	9	1	0	1	1	R	202

2.Raw Data

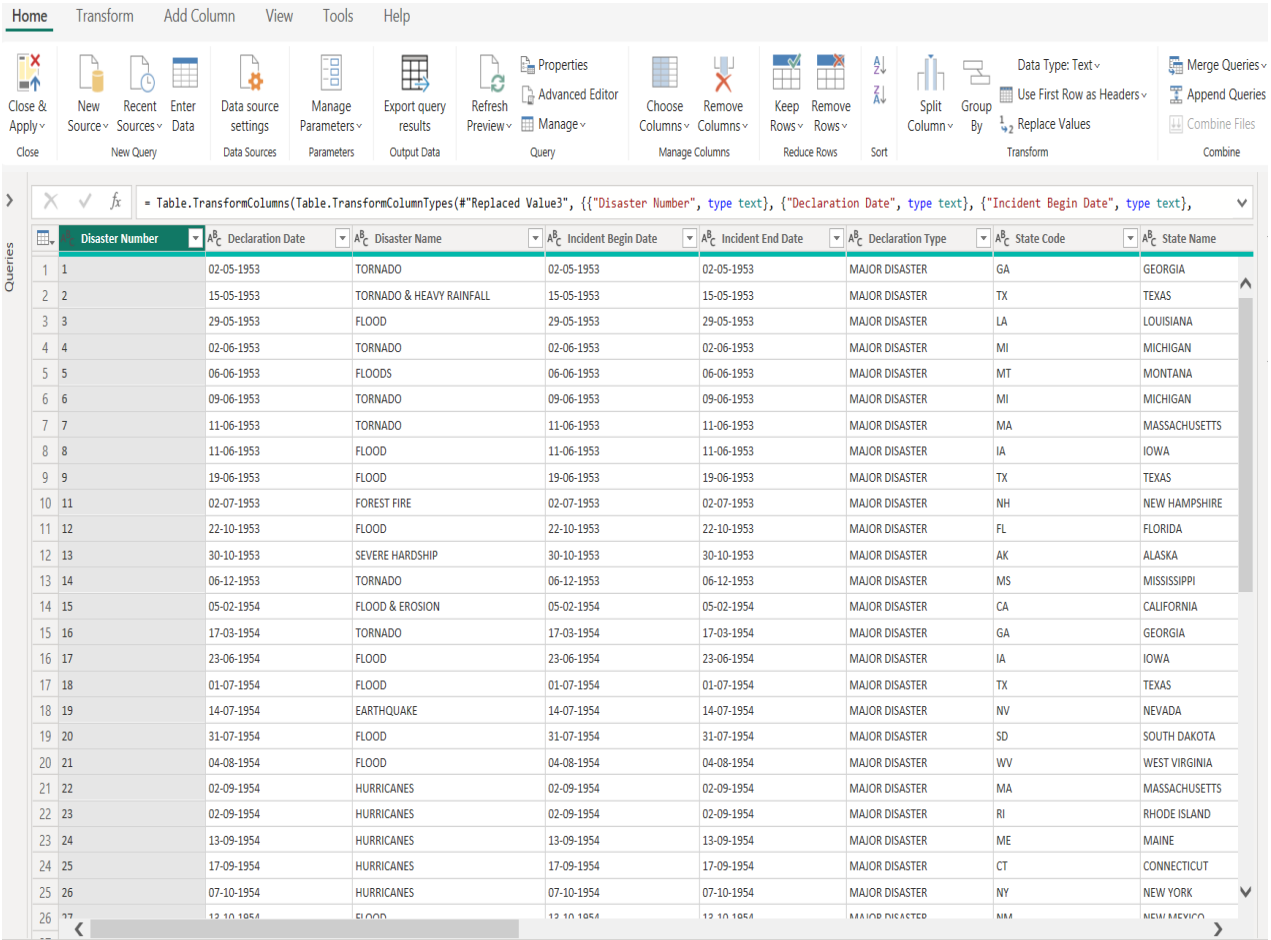
DATA CLEANING IN POWER BI [POWER QUERY]



3. Import/Load The Data



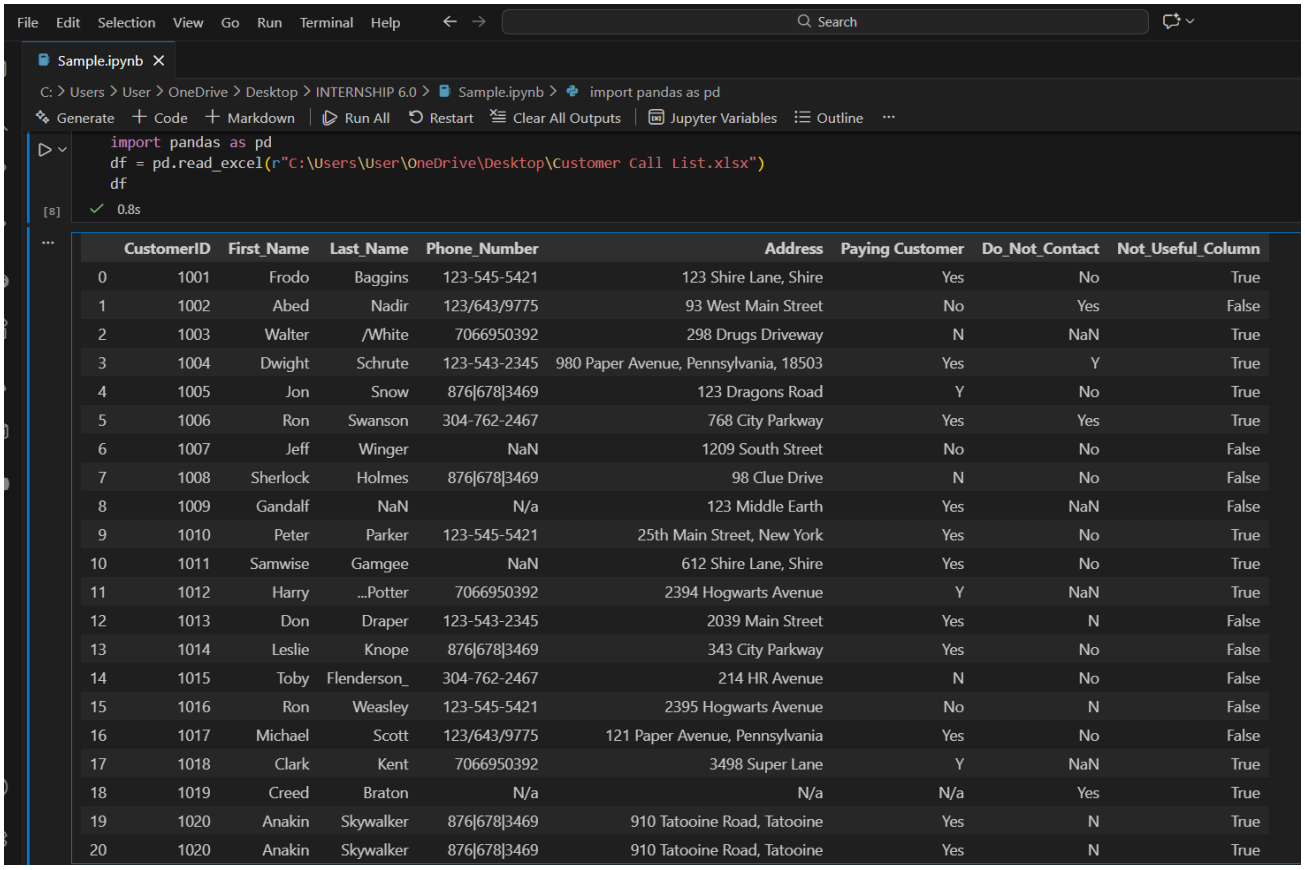
4. Cleaning Steps



	Disaster Number	Declaration Date	Disaster Name	Incident Begin Date	Incident End Date	Declaration Type	State Code	State Name
1	1	02-05-1953	TORNADO	02-05-1953	02-05-1953	MAJOR DISASTER	GA	GEORGIA
2	2	15-05-1953	TORNADO & HEAVY RAINFALL	15-05-1953	15-05-1953	MAJOR DISASTER	TX	TEXAS
3	3	29-05-1953	FLOOD	29-05-1953	29-05-1953	MAJOR DISASTER	LA	LOUISIANA
4	4	02-06-1953	TORNADO	02-06-1953	02-06-1953	MAJOR DISASTER	MI	MICHIGAN
5	5	06-06-1953	FLOODS	06-06-1953	06-06-1953	MAJOR DISASTER	MT	MONTANA
6	6	09-06-1953	TORNADO	09-06-1953	09-06-1953	MAJOR DISASTER	MI	MICHIGAN
7	7	11-06-1953	TORNADO	11-06-1953	11-06-1953	MAJOR DISASTER	MA	MASSACHUSETTS
8	8	11-06-1953	FLOOD	11-06-1953	11-06-1953	MAJOR DISASTER	IA	IOWA
9	9	19-06-1953	FLOOD	19-06-1953	19-06-1953	MAJOR DISASTER	TX	TEXAS
10	11	02-07-1953	FOREST FIRE	02-07-1953	02-07-1953	MAJOR DISASTER	NH	NEW HAMPSHIRE
11	12	22-10-1953	FLOOD	22-10-1953	22-10-1953	MAJOR DISASTER	FL	FLORIDA
12	13	30-10-1953	SEVERE HARDSHIP	30-10-1953	30-10-1953	MAJOR DISASTER	AK	ALASKA
13	14	06-12-1953	TORNADO	06-12-1953	06-12-1953	MAJOR DISASTER	MS	MISSISSIPPI
14	15	05-02-1954	FLOOD & EROSION	05-02-1954	05-02-1954	MAJOR DISASTER	CA	CALIFORNIA
15	16	17-03-1954	TORNADO	17-03-1954	17-03-1954	MAJOR DISASTER	GA	GEORGIA
16	17	23-06-1954	FLOOD	23-06-1954	23-06-1954	MAJOR DISASTER	IA	IOWA
17	18	01-07-1954	FLOOD	01-07-1954	01-07-1954	MAJOR DISASTER	TX	TEXAS
18	19	14-07-1954	EARTHQUAKE	14-07-1954	14-07-1954	MAJOR DISASTER	NV	NEVADA
19	20	31-07-1954	FLOOD	31-07-1954	31-07-1954	MAJOR DISASTER	SD	SOUTH DAKOTA
20	21	04-08-1954	FLOOD	04-08-1954	04-08-1954	MAJOR DISASTER	WV	WEST VIRGINIA
21	22	02-09-1954	HURRICANES	02-09-1954	02-09-1954	MAJOR DISASTER	MA	MASSACHUSETTS
22	23	02-09-1954	HURRICANES	02-09-1954	02-09-1954	MAJOR DISASTER	RI	RHODE ISLAND
23	24	13-09-1954	HURRICANES	13-09-1954	13-09-1954	MAJOR DISASTER	ME	MAINE
24	25	17-09-1954	HURRICANES	17-09-1954	17-09-1954	MAJOR DISASTER	CT	CONNECTICUT
25	26	07-10-1954	HURRICANES	07-10-1954	07-10-1954	MAJOR DISASTER	NY	NEW YORK
26	27	13-10-1954	FLOOD	13-10-1954	13-10-1954	MAJOR DISASTER	NM	NEW MEXICO

5.Cleaned Data

DATA CLEANING USING PYTHON [VS CODE, JUPYTER NOTEBOOK]



	CustomerID	First_Name	Last_Name	Phone_Number	Address	Paying Customer	Do_Not_Contact	Not_Useful_Column
0	1001	Frodo	Baggins	123-545-5421	123 Shire Lane, Shire	Yes	No	True
1	1002	Abed	Nadir	123/643/9775	93 West Main Street	No	Yes	False
2	1003	Walter	/White	7066950392	298 Drugs Driveway	N	NaN	True
3	1004	Dwight	Schrute	123-543-2345	980 Paper Avenue, Pennsylvania, 18503	Yes	Y	True
4	1005	Jon	Snow	876|678|3469	123 Dragons Road	Y	No	True
5	1006	Ron	Swanson	304-762-2467	768 City Parkway	Yes	Yes	True
6	1007	Jeff	Winger	NaN	1209 South Street	No	No	False
7	1008	Sherlock	Holmes	876|678|3469	98 Clue Drive	N	No	False
8	1009	Gandalf	NaN	N/a	123 Middle Earth	Yes	NaN	False
9	1010	Peter	Parker	123-545-5421	25th Main Street, New York	Yes	No	True
10	1011	Samwise	Gamgee	NaN	612 Shire Lane, Shire	Yes	No	True
11	1012	Harry	...Potter	7066950392	2394 Hogwarts Avenue	Y	NaN	True
12	1013	Don	Draper	123-543-2345	2039 Main Street	Yes	N	False
13	1014	Leslie	Knope	876|678|3469	343 City Parkway	Yes	No	False
14	1015	Toby	Flenderson_	304-762-2467	214 HR Avenue	N	No	False
15	1016	Ron	Weasley	123-545-5421	2395 Hogwarts Avenue	No	N	False
16	1017	Michael	Scott	123/643/9775	121 Paper Avenue, Pennsylvania	Yes	No	False
17	1018	Clark	Kent	7066950392	3498 Super Lane	Y	NaN	True
18	1019	Creed	Braton	N/a	N/a	N/a	Yes	True
19	1020	Anakin	Skywalker	876|678|3469	910 Tatooine Road, Tatooine	Yes	N	True
20	1020	Anakin	Skywalker	876|678|3469	910 Tatooine Road, Tatooine	Yes	N	True

1.Importing/Load Data

	CustomerID	First_Name	Last_Name	Phone_Number	Address	Paying Customer	Do_Not_Contact	Not_Useful_Column
0	1001	Frodo	Baggins	123-545-5421	123 Shire Lane, Shire	Yes	No	True
1	1002	Abed	Nadir	123/643/9775	93 West Main Street	No	Yes	False
2	1003	Walter	/White	7066950392	298 Drugs Driveway	N	NaN	True
3	1004	Dwight	Schrute	123-543-2345	980 Paper Avenue, Pennsylvania, 18503	Yes	Y	True
4	1005	Jon	Snow	876|678|3469	123 Dragons Road	Y	No	True
5	1006	Ron	Swanson	304-762-2467	768 City Parkway	Yes	Yes	True
6	1007	Jeff	Winger	NaN	1209 South Street	No	No	False
7	1008	Sherlock	Holmes	876|678|3469	98 Clue Drive	N	No	False
8	1009	Gandalf	NaN	N/a	123 Middle Earth	Yes	NaN	False
9	1010	Peter	Parker	123-545-5421	25th Main Street, New York	Yes	No	True
10	1011	Samwise	Gamgee	NaN	612 Shire Lane, Shire	Yes	No	True
11	1012	Harry	...Potter	7066950392	2394 Hogwarts Avenue	Y	NaN	True
12	1013	Don	Draper	123-543-2345	2039 Main Street	Yes	N	False
13	1014	Leslie	Knope	876|678|3469	343 City Parkway	Yes	No	False
14	1015	Toby	Flenderson_	304-762-2467	214 HR Avenue	N	No	False
15	1016	Ron	Weasley	123-545-5421	2395 Hogwarts Avenue	No	N	False
16	1017	Michael	Scott	123/643/9775	121 Paper Avenue, Pennsylvania	Yes	No	False
17	1018	Clark	Kent	7066950392	3498 Super Lane	Y	NaN	True
18	1019	Creed	Braton	N/a	N/a	N/a	Yes	True
19	1020	Anakin	Skywalker	876|678|3469	910 Tatooine Road, Tatooine	Yes	N	True

2.Removing Duplicates

DATA CLEANING USING PYTHON [VS CODE, JUPYTER NOTEBOOK]

```
df.columns
```
✓ 0.0s

```
Index(['CustomerID', 'First_Name', 'Last_Name', 'Phone_Number', 'Address',
       'Paying Customer', 'Do_Not_Contact', 'Not_Useful_Column'],
      dtype='object')
```

3.No.of Columns

```
df = df.drop(columns = ["Not_Useful_Column"])
```
✓ 0.0s

```
df["Last_Name"] = df["Last_Name"].str.strip("/..._")
```
✓ 0.0s

```
df
```
✓ 0.0s

	CustomerID	First_Name	Last_Name	Phone_Number	Address	Paying Customer	Do_Not_Contact
0	1001	Frodo	Baggins	123-545-5421	123 Shire Lane, Shire	Yes	No
1	1002	Abed	Nadir	123/643/9775	93 West Main Street	No	Yes
2	1003	Walter	White	7066950392	298 Drugs Driveway	N	NaN
3	1004	Dwight	Schrute	123-543-2345	980 Paper Avenue, Pennsylvania, 18503	Yes	Y
4	1005	Jon	Snow	876|678|3469	123 Dragons Road	Y	No
5	1006	Ron	Swanson	304-762-2467	768 City Parkway	Yes	Yes
6	1007	Jeff	Winger	NaN	1209 South Street	No	No
7	1008	Sherlock	Holmes	876|678|3469	98 Clue Drive	N	No
8	1009	Gandalf	NaN	N/a	123 Middle Earth	Yes	NaN
9	1010	Peter	Parker	123-545-5421	25th Main Street, New York	Yes	No
10	1011	Samwise	Gamgee	NaN	612 Shire Lane, Shire	Yes	No
11	1012	Harry	Potter	7066950392	2394 Hogwarts Avenue	Y	NaN
12	1013	Don	Draper	123-543-2345	2039 Main Street	Yes	N
13	1014	Leslie	Knope	876|678|3469	343 City Parkway	Yes	No
14	1015	Toby	Flenderson	304-762-2467	214 HR Avenue	N	No
15	1016	Ron	Weasley	123-545-5421	2395 Hogwarts Avenue	No	N
16	1017	Michael	Scott	123/643/9775	121 Paper Avenue, Pennsylvania	Yes	No
17	1018	Clark	Kent	7066950392	3498 Super Lane	Y	NaN
18	1019	Creed	Braton	N/a	N/a	N/a	Yes
19	1020	Anakin	Skywalker	876|678|3469	910 Tatooine Road, Tatooine	Yes	N

4.Removing Unwanted Columns

```
df = df.rename(columns={"Last_Name" : "Test_Name"})
df
```
✓ 0.0s

	CustomerID	First_Name	Test_Name	Phone_Number	Address	Paying Customer	Do_Not_Contact	Street	City
0	1001	Frodo	Baggins	1235455421	123 Shire Lane, Shire	Y	N	123 Shire Lane	Shire
4	1005	Jon	Snow	8766783469	123 Dragons Road	Y	N	123 Dragons Road	None
7	1008	Sherlock	Holmes	8766783469	98 Clue Drive	N	N	98 Clue Drive	None
9	1010	Peter	Parker	1235455421	25th Main Street, New York	Y	N	25th Main Street	New York
12	1013	Don	Draper	1235432345	2039 Main Street	Y	N	2039 Main Street	None
13	1014	Leslie	Knope	8766783469	343 City Parkway	Y	N	343 City Parkway	None
14	1015	Toby	Flenderson	3047622467	214 HR Avenue	N	N	214 HR Avenue	None
15	1016	Ron	Weasley	1235455421	2395 Hogwarts Avenue	N	N	2395 Hogwarts Avenue	None
16	1017	Michael	Scott	1236439775	121 Paper Avenue, Pennsylvania	Y	N	121 Paper Avenue	Pennsylvania
19	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Y	N	910 Tatooine Road	Tatooine
20	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Y	N	910 Tatooine Road	Tatooine

5.Rename Columns

DATA CLEANING USING PYTHON [VS CODE, JUPYTER NOTEBOOK]

```
df["Phone_Number"] = df["Phone_Number"].str.replace("-", "")
df["Phone_Number"] = df["Phone_Number"].str.replace("/", "")
df["Phone_Number"] = df["Phone_Number"].str.replace("|", "")
df
```

[14] ✓ 0.0s

	CustomerID	First_Name	Last_Name	Phone_Number	Address	Paying Customer	Do_Not_Contact
0	1001	Frodo	Baggins	1235455421	123 Shire Lane, Shire	Yes	No
1	1002	Abed	Nadir	1236439775	93 West Main Street	No	Yes
2	1003	Walter	White	NaN	298 Drugs Driveway	N	NaN
3	1004	Dwight	Schrute	1235432345	980 Paper Avenue, Pennsylvania, 18503	Yes	Y
4	1005	Jon	Snow	8766783469	123 Dragons Road	Y	No
5	1006	Ron	Swanson	3047622467	768 City Parkway	Yes	Yes
6	1007	Jeff	Winger	NaN	1209 South Street	No	No
7	1008	Sherlock	Holmes	8766783469	98 Clue Drive	N	No
8	1009	Gandalf	NaN	Na	123 Middle Earth	Yes	NaN
9	1010	Peter	Parker	1235455421	25th Main Street, New York	Yes	No
10	1011	Samwise	Gamgee	NaN	612 Shire Lane, Shire	Yes	No
11	1012	Harry	Potter	NaN	2394 Hogwarts Avenue	Y	NaN
12	1013	Don	Draper	1235432345	2039 Main Street	Yes	N
13	1014	Leslie	Knope	8766783469	343 City Parkway	Yes	No
14	1015	Toby	Flenderson	3047622467	214 HR Avenue	N	No
15	1016	Ron	Weasley	1235455421	2395 Hogwarts Avenue	No	N
16	1017	Michael	Scott	1236439775	121 Paper Avenue, Pennsylvania	Yes	No
17	1018	Clark	Kent	NaN	3498 Super Lane	Y	NaN
18	1019	Creed	Braton	Na	N/a	N/a	Yes
19	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Yes	N
20	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Yes	N

```
df = df.fillna(" ")
```

[15] ✓ 0.0s

```
df = df.replace("Na"," ")
df = df.replace("N/a"," ")
df = df.replace("Yes","Y")
df = df.replace("No","N")
df
```

[16] ✓ 0.0s

	CustomerID	First_Name	Last_Name	Phone_Number	Address	Paying Customer	Do_Not_Contact
0	1001	Frodo	Baggins	1235455421	123 Shire Lane, Shire	Y	N
1	1002	Abed	Nadir	1236439775	93 West Main Street	N	Y
2	1003	Walter	White		298 Drugs Driveway	N	
3	1004	Dwight	Schrute	1235432345	980 Paper Avenue, Pennsylvania, 18503	Y	Y
4	1005	Jon	Snow	8766783469	123 Dragons Road	Y	N
5	1006	Ron	Swanson	3047622467	768 City Parkway	Y	Y
6	1007	Jeff	Winger		1209 South Street	N	N
7	1008	Sherlock	Holmes	8766783469	98 Clue Drive	N	N
8	1009	Gandalf			123 Middle Earth	Y	
9	1010	Peter	Parker	1235455421	25th Main Street, New York	Y	N
10	1011	Samwise	Gamgee		612 Shire Lane, Shire	Y	N
11	1012	Harry	Potter		2394 Hogwarts Avenue	Y	
12	1013	Don	Draper	1235432345	2039 Main Street	Y	N
13	1014	Leslie	Knope	8766783469	343 City Parkway	Y	N
14	1015	Toby	Flenderson	3047622467	214 HR Avenue	N	N
15	1016	Ron	Weasley	1235455421	2395 Hogwarts Avenue	N	N
16	1017	Michael	Scott	1236439775	121 Paper Avenue, Pennsylvania	Y	N
17	1018	Clark	Kent		3498 Super Lane	Y	
18	1019	Creed	Braton				Y
19	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Y	N
20	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Y	N

DATA CLEANING USING PYTHON [VS CODE, JUPYTER NOTEBOOK]

```
df = df.replace("Y", "Yes")
df = df.replace("NO", "No")
df
```

✓ 0.0s

	CustomerID	First_Name	Test_Name	Phone_Number	Address	Paying Customer	Do_Not_Contact	Street	City
0	1001	Frodo	Baggins	1235455421	123 Shire Lane, Shire	Yes	N	123 Shire Lane	Shire
4	1005	Jon	Snow	8766783469	123 Dragons Road	Yes	N	123 Dragons Road	None
7	1008	Sherlock	Holmes	8766783469	98 Clue Drive	N	N	98 Clue Drive	None
9	1010	Peter	Parker	1235455421	25th Main Street, New York	Yes	N	25th Main Street	New York
12	1013	Don	Draper	1235432345	2039 Main Street	Yes	N	2039 Main Street	None
13	1014	Leslie	Knope	8766783469	343 City Parkway	Yes	N	343 City Parkway	None
14	1015	Toby	Flenderson	3047622467	214 HR Avenue	N	N	214 HR Avenue	None
15	1016	Ron	Weasley	1235455421	2395 Hogwarts Avenue	N	N	2395 Hogwarts Avenue	None
16	1017	Michael	Scott	1236439775	121 Paper Avenue, Pennsylvania	Yes	N	121 Paper Avenue	Pennsylvania
19	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Yes	N	910 Tatooine Road	Tatooine
20	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Yes	N	910 Tatooine Road	Tatooine

6.Replacing Values

```
df.columns
```

✓ 0.0s

```
Index(['CustomerID', 'First_Name', 'Last_Name', 'Phone_Number', 'Address',
       'Paying Customer', 'Do_Not_Contact', 'Street', 'City'],
      dtype='object')
```

7.Reading No.of Columns

```
df[["Street", "City"]] = df["Address"].str.split(",", expand=True)
df
```

✓ 0.0s

```
C:\Users\User\AppData\Local\Temp\ipykernel_17312\589710751.py:1: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
  df[["Street", "City"]] = df["Address"].str.split(",", expand=True)
C:\Users\User\AppData\Local\Temp\ipykernel_17312\589710751.py:1: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
  df[["Street", "City"]] = df["Address"].str.split(",", expand=True)
```

	CustomerID	First_Name	Last_Name	Phone_Number	Address	Paying Customer	Do_Not_Contact	Street	City
0	1001	Frodo	Baggins	1235455421	123 Shire Lane, Shire	Y	N	123 Shire Lane	Shire
4	1005	Jon	Snow	8766783469	123 Dragons Road	Y	N	123 Dragons Road	None
7	1008	Sherlock	Holmes	8766783469	98 Clue Drive	N	N	98 Clue Drive	None
9	1010	Peter	Parker	1235455421	25th Main Street, New York	Y	N	25th Main Street	New York
12	1013	Don	Draper	1235432345	2039 Main Street	Y	N	2039 Main Street	None
13	1014	Leslie	Knope	8766783469	343 City Parkway	Y	N	343 City Parkway	None
14	1015	Toby	Flenderson	3047622467	214 HR Avenue	N	N	214 HR Avenue	None
15	1016	Ron	Weasley	1235455421	2395 Hogwarts Avenue	N	N	2395 Hogwarts Avenue	None
16	1017	Michael	Scott	1236439775	121 Paper Avenue, Pennsylvania	Y	N	121 Paper Avenue	Pennsylvania
19	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Y	N	910 Tatooine Road	Tatooine
20	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Y	N	910 Tatooine Road	Tatooine

8. Splitting Column

DATA CLEANING USING PYTHON [VS CODE, JUPYTER NOTEBOOK]

```
df = df[df["Phone_Number"] != " "]
df
```

✓ 0.0s

	CustomerID	First_Name	Last_Name	Phone_Number	Address	Paying Customer	Do_Not_Contact
0	1001	Frodo	Baggins	1235455421	123 Shire Lane, Shire	Y	N
4	1005	Jon	Snow	8766783469	123 Dragons Road	Y	N
7	1008	Sherlock	Holmes	8766783469	98 Clue Drive	N	N
9	1010	Peter	Parker	1235455421	25th Main Street, New York	Y	N
12	1013	Don	Draper	1235432345	2039 Main Street	Y	N
13	1014	Leslie	Knope	8766783469	343 City Parkway	Y	N
14	1015	Toby	Flenderson	3047622467	214 HR Avenue	N	N
15	1016	Ron	Weasley	1235455421	2395 Hogwarts Avenue	N	N
16	1017	Michael	Scott	1236439775	121 Paper Avenue, Pennsylvania	Y	N
19	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Y	N
20	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Y	N

```
df.reset_index(drop=True)
```

Python

	CustomerID	First_Name	Last_Name	Phone_Number	Address	Paying Customer	Do_Not_Contact	Street	City
0	1001	Frodo	Baggins	1235455421	123 Shire Lane, Shire	Y	N	123 Shire Lane	Shire
1	1005	Jon	Snow	8766783469	123 Dragons Road	Y	N	123 Dragons Road	None
2	1008	Sherlock	Holmes	8766783469	98 Clue Drive	N	N	98 Clue Drive	None
3	1010	Peter	Parker	1235455421	25th Main Street, New York	Y	N	25th Main Street	New York
4	1013	Don	Draper	1235432345	2039 Main Street	Y	N	2039 Main Street	None
5	1014	Leslie	Knope	8766783469	343 City Parkway	Y	N	343 City Parkway	None
6	1015	Toby	Flenderson	3047622467	214 HR Avenue	N	N	214 HR Avenue	None
7	1016	Ron	Weasley	1235455421	2395 Hogwarts Avenue	N	N	2395 Hogwarts Avenue	None
8	1017	Michael	Scott	1236439775	121 Paper Avenue, Pennsylvania	Y	N	121 Paper Avenue	Pennsylvania
9	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Y	N	910 Tatooine Road	Tatooine
10	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Y	N	910 Tatooine Road	Tatooine

9.Condition Based

```
df
```

✓ 0.0s

	CustomerID	First_Name	Test_Name	Phone_Number	Address	Paying Customer	Do_Not_Contact	Street	City
0	1001	Frodo	Baggins	1235455421	123 Shire Lane, Shire	Yes	N	123 Shire Lane	Shire
4	1005	Jon	Snow	8766783469	123 Dragons Road	Yes	N	123 Dragons Road	None
7	1008	Sherlock	Holmes	8766783469	98 Clue Drive	N	N	98 Clue Drive	None
9	1010	Peter	Parker	1235455421	25th Main Street, New York	Yes	N	25th Main Street	New York
12	1013	Don	Draper	1235432345	2039 Main Street	Yes	N	2039 Main Street	None
13	1014	Leslie	Knope	8766783469	343 City Parkway	Yes	N	343 City Parkway	None
14	1015	Toby	Flenderson	3047622467	214 HR Avenue	N	N	214 HR Avenue	None
15	1016	Ron	Weasley	1235455421	2395 Hogwarts Avenue	N	N	2395 Hogwarts Avenue	None
16	1017	Michael	Scott	1236439775	121 Paper Avenue, Pennsylvania	Yes	N	121 Paper Avenue	Pennsylvania
19	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Yes	N	910 Tatooine Road	Tatooine
20	1020	Anakin	Skywalker	8766783469	910 Tatooine Road, Tatooine	Yes	N	910 Tatooine Road	Tatooine

10.Cleaned Data