Import Pandas Library

In [1]:
```
import pandas as pd
```

Import Dataset kedalam DataFrame

In [3]:
```
df = pd.read_csv("pokemon_data.csv")
df
```

Out[3]:

	Name	Type 1	Type 2	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Generation
0	Bulbasaur	Grass	Poison	45	49	49	65	65	45	1
1	Ivysaur	Grass	Poison	60	62	63	80	80	60	1
2	Venusaur	Grass	Poison	80	82	83	100	100	80	1
3	VenusaurMega Venusaur	Grass	Poison	80	100	123	122	120	80	1
4	Charmander	Fire	NaN	39	52	43	60	50	65	1
...	...	...	...	...	...	...	...	...	...	...
795	Diancie	Rock	Fairy	50	100	150	100	150	50	6
796	DiancieMega Diancie	Rock	Fairy	50	160	110	160	110	110	6
797	HoopaHoopa Confined	Psychic	Ghost	80	110	60	150	130	70	6
798	HoopaHoopa Unbound	Psychic	Dark	80	160	60	170	130	80	6
799	Volcanion	Fire	Water	80	110	120	130	90	70	6

800 rows × 11 columns

Data Filtering

Get Nama Kolom di DataFrame

In [15]:
```
print(df.columns)
```

```
Index(['Name', 'Type 1', 'Type 2', 'HP', 'Attack', 'Defense', 'Sp. Atk',
       'Sp. Def', 'Speed', 'Generation', 'Legendary'],
      dtype='object')
```

Get Value dari Kolom Tertentu

In [17]:
```
print(df['Name'])
```

```
0                  Bulbasaur
1                    Ivysaur
2                   Venusaur
3      VenusaurMega Venusaur
4                 Charmander
               ...
795                  Diancie
796      DiancieMega Diancie
797      HoopaHoopa Confined
798       HoopaHoopa Unbound
799                Volcanion
Name: Name, Length: 800, dtype: object
```

Get Value dari Index x ke y Misal [0:5] -> 0 - 4

In [19]:
```
print(df['Name'][0:5])
```

```
0               Bulbasaur
1                 Ivysaur
2                Venusaur
3    VenusaurMega Venusaur
4              Charmander
Name: Name, dtype: object
```

Get Value dari banyak Kolom -> Array

In [24]:
```
print(df[['Name', 'Type 1', 'HP']])
```

```
                     Name   Type 1  HP
0                Bulbasaur    Grass  45
1                  Ivysaur    Grass  60
2                 Venusaur    Grass  80
3    VenusaurMega Venusaur    Grass  80
4                Charmander     Fire  39
..                      ...      ...  ..
795                Diancie     Rock  50
796    DiancieMega Diancie     Rock  50
797    HoopaHoopa Confined  Psychic  80
798     HoopaHoopa Unbound  Psychic  80
799              Volcanion     Fire  80

[800 rows x 3 columns]
```

Get Info Semua Kolom, pada df berindex x

In [4]:
```
print(df.iloc[0])
```

```
Name          Bulbasaur
Type 1            Grass
Type 2           Poison
HP                   45
Attack               49
Defense              49
Sp. Atk              65
Sp. Def              65
Speed                45
Generation            1
Legendary         False
Name: 0, dtype: object
```

Get Data dengan nama x, berdasarkan kondisi y

In [5]:
```
df.loc[df['Type 1'] == 'Grass']
```

Out[5]:

	Name	Type 1	Type 2	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Generation
0	Bulbasaur	Grass	Poison	45	49	49	65	65	45	1
1	Ivysaur	Grass	Poison	60	62	63	80	80	60	1
2	Venusaur	Grass	Poison	80	82	83	100	100	80	1
3	VenusaurMega Venusaur	Grass	Poison	80	100	123	122	120	80	1
48	Oddish	Grass	Poison	45	50	55	75	65	30	1
...	...	...	...	...	...	...	...	...	...	...
718	Chespin	Grass	NaN	56	61	65	48	45	38	6
719	Quilladin	Grass	NaN	61	78	95	56	58	57	6
720	Chesnaught	Grass	Fighting	88	107	122	74	75	64	6
740	Skiddo	Grass	NaN	66	65	48	62	57	52	6
741	Gogoat	Grass	NaN	123	100	62	97	81	68	6

70 rows × 11 columns

Get Data dengan Multiple Condition -> using operator &

In [33]:
```
df.loc[(df['Type 1'] == 'Grass') & (df['Type 2'] == 'Poison')]
```

Out[33]:

	Name	Type 1	Type 2	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Generation	L
0	Bulbasaur	Grass	Poison	45	49	49	65	65	45	1	
1	Ivysaur	Grass	Poison	60	62	63	80	80	60	1	
2	Venusaur	Grass	Poison	80	82	83	100	100	80	1	
3	VenusaurMega Venusaur	Grass	Poison	80	100	123	122	120	80	1	
48	Oddish	Grass	Poison	45	50	55	75	65	30	1	
49	Gloom	Grass	Poison	60	65	70	85	75	40	1	
50	Vileplume	Grass	Poison	75	80	85	110	90	50	1	
75	Bellsprout	Grass	Poison	50	75	35	70	30	40	1	
76	Weepinbell	Grass	Poison	65	90	50	85	45	55	1	
77	Victreebel	Grass	Poison	80	105	65	100	70	70	1	
344	Roselia	Grass	Poison	50	60	45	100	80	65	3	
451	Budew	Grass	Poison	40	30	35	50	70	55	4	
452	Roserade	Grass	Poison	60	70	65	125	105	90	4	
651	Foongus	Grass	Poison	69	55	45	55	55	15	5	
652	Amoonguss	Grass	Poison	114	85	70	85	80	30	5	

Get Value dari kolom x, contains y

In [35]:
```
df.loc[df['Name'].str.contains('Mega')]
```

Out[35]:

	Name	Type 1	Type 2	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Genera
3	VenusaurMega Venusaur	Grass	Poison	80	100	123	122	120	80	
7	CharizardMega Charizard X	Fire	Dragon	78	130	111	130	85	100	
8	CharizardMega Charizard Y	Fire	Flying	78	104	78	159	115	100	
12	BlastoiseMega Blastoise	Water	NaN	79	103	120	135	115	78	
19	BeedrillMega Beedrill	Bug	Poison	65	150	40	15	80	145	
23	PidgeotMega Pidgeot	Normal	Flying	83	80	80	135	80	121	
71	AlakazamMega Alakazam	Psychic	NaN	55	50	65	175	95	150	
87	SlowbroMega Slowbro	Water	Psychic	95	75	180	130	80	30	
102	GengarMega Gengar	Ghost	Poison	60	65	80	170	95	130	
124	KangaskhanMega Kangaskhan	Normal	NaN	105	125	100	60	100	100	
137	PinsirMega Pinsir	Bug	Flying	65	155	120	65	90	105	
141	GyaradosMega Gyarados	Water	Dark	95	155	109	70	130	81	
154	AerodactylMega Aerodactyl	Rock	Flying	80	135	85	70	95	150	
163	MewtwoMega Mewtwo X	Psychic	Fighting	106	190	100	154	100	130	
164	MewtwoMega Mewtwo Y	Psychic	NaN	106	150	70	194	120	140	
168	Meganium	Grass	NaN	80	82	100	83	100	80	
196	AmpharosMega Ampharos	Electric	Dragon	90	95	105	165	110	45	
224	SteelixMega Steelix	Steel	Ground	75	125	230	55	95	30	
229	ScizorMega Scizor	Bug	Steel	70	150	140	65	100	75	
232	HeracrossMega Heracross	Bug	Fighting	80	185	115	40	105	75	

	Name	Type 1	Type 2	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Genera
248	HoundoomMega Houndoom	Dark	Fire	75	90	90	140	90	115	
268	TyranitarMega Tyranitar	Rock	Dark	100	164	150	95	120	71	
275	SceptileMega Sceptile	Grass	Dragon	70	110	75	145	85	145	
279	BlazikenMega Blaziken	Fire	Fighting	80	160	80	130	80	100	
283	SwampertMega Swampert	Water	Ground	100	150	110	95	110	70	
306	GardevoirMega Gardevoir	Psychic	Fairy	68	85	65	165	135	100	
327	SableyeMega Sableye	Dark	Ghost	50	85	125	85	115	20	
329	MawileMega Mawile	Steel	Fairy	50	105	125	55	95	50	
333	AggronMega Aggron	Steel	NaN	70	140	230	60	80	50	
336	MedichamMega Medicham	Fighting	Psychic	60	100	85	80	85	100	
339	ManectricMega Manectric	Electric	NaN	70	75	80	135	80	135	
349	SharpedoMega Sharpedo	Water	Dark	70	140	70	110	65	105	
354	CameruptMega Camerupt	Fire	Ground	70	120	100	145	105	20	
366	AltariaMega Altaria	Dragon	Fairy	75	110	110	110	105	80	
387	BanetteMega Banette	Ghost	NaN	64	165	75	93	83	75	
393	AbsolMega Absol	Dark	NaN	65	150	60	115	60	115	
397	GlalieMega Glalie	Ice	NaN	80	120	80	120	80	100	
409	SalamenceMega Salamence	Dragon	Flying	95	145	130	120	90	120	
413	MetagrossMega Metagross	Steel	Psychic	80	145	150	105	110	110	
418	LatiasMega Latias	Dragon	Psychic	80	100	120	140	150	110	
420	LatiosMega Latios	Dragon	Psychic	80	130	100	160	120	110	

	Name	Type 1	Type 2	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Genera
426	RayquazaMega Rayquaza	Dragon	Flying	105	180	100	180	100	115	
476	LopunnyMega Lopunny	Normal	Fighting	65	136	94	54	96	135	
494	GarchompMega Garchomp	Dragon	Ground	108	170	115	120	95	92	
498	LucarioMega Lucario	Fighting	Steel	70	145	88	140	70	112	
511	AbomasnowMega Abomasnow	Grass	Ice	90	132	105	132	105	30	
527	GalladeMega Gallade	Psychic	Fighting	68	165	95	65	115	110	
591	AudinoMega Audino	Normal	Fairy	103	60	126	80	126	50	
796	DiancieMega Diancie	Rock	Fairy	50	160	110	160	110	110	

Sort kolom x, default = asc, desc => Ascending=False

In [6]:
```
df.sort_values('Name')
```

Out[6]:

	Name	Type 1	Type 2	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Generati
794	Zygarde50% Forme	Dragon	Ground	108	100	121	81	95	95	
695	Zweilous	Dark	Dragon	72	85	70	65	70	58	
46	Zubat	Poison	Flying	40	45	35	30	40	55	
631	Zorua	Dark	NaN	40	65	40	80	40	65	
632	Zoroark	Dark	NaN	60	105	60	120	60	105	
...	...	...	...	...	...	...	...	...	...	
393	AbsolMega Absol	Dark	NaN	65	150	60	115	60	115	
392	Absol	Dark	NaN	65	130	60	75	60	75	
68	Abra	Psychic	NaN	25	20	15	105	55	90	
511	AbomasnowMega Abomasnow	Grass	Ice	90	132	105	132	105	30	
510	Abomasnow	Grass	Ice	90	92	75	92	85	60	

800 rows × 11 columns

Buat Kolom baru x, hasil operasi y + z + n

In [41]:
```
df['Total'] = df['HP'] + df['Attack'] + df['Defense'] + df['Sp. Atk'] + df['Sp. Def
df['Total']
```

Out[41]:
```
0      318
1      405
2      525
3      625
4      309
      ...
795    600
796    700
797    600
798    680
799    600
Name: Total, Length: 800, dtype: int64
```

Ubah value dari x ke y

In [8]:
```
df.loc[df['Type 1'] == 'Fire', 'Type 1'] = 'Flame'
df
```

Out[8]:

	Name	Type 1	Type 2	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Generation
0	Bulbasaur	Grass	Poison	45	49	49	65	65	45	1
1	Ivysaur	Grass	Poison	60	62	63	80	80	60	1
2	Venusaur	Grass	Poison	80	82	83	100	100	80	1
3	VenusaurMega Venusaur	Grass	Poison	80	100	123	122	120	80	1
4	Charmander	Fire	NaN	39	52	43	60	50	65	1
...	...	...	...	...	...	...	...	...	...	...
795	Diancie	Rock	Fairy	50	100	150	100	150	50	6
796	DiancieMega Diancie	Rock	Fairy	50	160	110	160	110	110	6
797	HoopaHoopa Confined	Psychic	Ghost	80	110	60	150	130	70	6
798	HoopaHoopa Unbound	Psychic	Dark	80	160	60	170	130	80	6
799	Volcanion	Fire	Water	80	110	120	130	90	70	6

800 rows × 11 columns

Export to csv, without index

In [47]:
```
df.to_csv('output.csv', index=False)
```