

# DATA SCIENCE ASSIGNMENT 1

In [1]:

```
import pandas as pd
```

In [2]:

```
data = pd.read_csv("pokemon.csv")
```

In [3]:

```
data
```

Out[3]:

	#	Name	Type 1	Type 2	Total	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Generation	Legendary	
	0	1	Bulbasaur	Grass	Poison	318	45	49	49	65	65	45	1	False
	1	2	Ivysaur	Grass	Poison	405	60	62	63	80	80	60	1	False
	2	3	Venusaur	Grass	Poison	525	80	82	83	100	100	80	1	False
	3	3	VenusaurMega Venusaur	Grass	Poison	625	80	100	123	122	120	80	1	False
	4	4	Charmander	Fire	NaN	309	39	52	43	60	50	65	1	False
	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	795	719	Diancie	Rock	Fairy	600	50	100	150	100	150	50	6	True
	796	719	DiancieMega Diancie	Rock	Fairy	700	50	160	110	160	110	110	6	True
	797	720	HoopaHoopa Confined	Psychic	Ghost	600	80	110	60	150	130	70	6	True
	798	720	HoopaHoopa Unbound	Psychic	Dark	680	80	160	60	170	130	80	6	True
	799	721	Volcanion	Fire	Water	600	80	110	120	130	90	70	6	True

800 rows × 13 columns

In [4]:

```
attack_mean = data["Attack"].mean()

def set_attack(val):
    if val < attack_mean:
        return "Attack Low"
    else:
        return "Attack High"
```

In [5]:

```
data["Attack_High_Low"] = data["Attack"].apply(set_attack)
```

In [6]:

```
data
```

Out[6]:

	#	Name	Type 1	Type 2	Total	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Generation	Legendary	Attack_High_Low	
	0	1	Bulbasaur	Grass	Poison	318	45	49	49	65	65	45	1	False	Attack Low
	1	2	Ivysaur	Grass	Poison	405	60	62	63	80	80	60	1	False	Attack Low
	2	3	Venusaur	Grass	Poison	525	80	82	83	100	100	80	1	False	Attack High
	3	3	VenusaurMega Venusaur	Grass	Poison	625	80	100	123	122	120	80	1	False	Attack High
	4	4	Charmander	Fire	NaN	309	39	52	43	60	50	65	1	False	Attack Low
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	795	719	Diancie	Rock	Fairy	600	50	100	150	100	150	50	6	True	Attack High
	796	719	DiancieMega Diancie	Rock	Fairy	700	50	160	110	160	110	110	6	True	Attack High
	797	720	HoopaHoopa Confined	Psychic	Ghost	600	80	110	60	150	130	70	6	True	Attack High
	798	720	HoopaHoopa Unbound	Psychic	Dark	680	80	160	60	170	130	80	6	True	Attack High
	799	721	Volcanion	Fire	Water	600	80	110	120	130	90	70	6	True	Attack High

800 rows × 14 columns

## Add two columns High\_Low\_Speed and High\_Low\_HP

In [8]:

```
speed_mean = data["Speed"].mean()

def set_speed(val):
    if val < speed_mean:
        return "Low Speed"
    else:
        return "High Speed"
```

In [9]:

```
data["Speed_High_Low"] = data["Speed"].apply(set_speed)
```

In [10]:

```
data
```

Out[10]:

	#	Name	Type 1	Type 2	Total	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Generation	Legendary	Attack_High_Low	Speed_High_Low	
	0	1	Bulbasaur	Grass	Poison	318	45	49	49	65	65	45	1	False	Attack Low	Low Speed
	1	2	Ivysaur	Grass	Poison	405	60	62	63	80	80	60	1	False	Attack Low	Low Speed
	2	3	Venusaur	Grass	Poison	525	80	82	83	100	100	80	1	False	Attack High	High Speed
	3	3	VenusaurMega Venusaur	Grass	Poison	625	80	100	123	122	120	80	1	False	Attack High	High Speed
	4	4	Charmander	Fire	NaN	309	39	52	43	60	50	65	1	False	Attack Low	Low Speed
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	795	719	Diancie	Rock	Fairy	600	50	100	150	100	150	50	6	True	Attack High	Low Speed
	796	719	DiancieMega Diancie	Rock	Fairy	700	50	160	110	160	110	110	6	True	Attack High	High Speed
	797	720	HoopaHoopa Confined	Psychic	Ghost	600	80	110	60	150	130	70	6	True	Attack High	High Speed
	798	720	HoopaHoopa Unbound	Psychic	Dark	680	80	160	60	170	130	80	6	True	Attack High	High Speed
	799	721	Volcanion	Fire	Water	600	80	110	120	130	90	70	6	True	Attack High	High Speed

800 rows × 15 columns

In [11]:

```
hp_mean = data["HP"].mean()

def set_hp(val):
    if val < hp_mean:
        return "Low HP"
    else:
        return "High HP"
```

In [12]:

```
data["HP_High_Low"] = data["HP"].apply(set_hp)
```

In [13]:

```
data
```

ut[13]:

	#	Name	Type 1	Type 2	Total	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Generation	Legendary	Attack_High_Low	Speed_High_Low	HP_High_Low	
	0	1	Bulbasaur	Grass	Poison	318	45	49	49	65	65	45	1	False	Attack Low	Low Speed	Low HP
	1	2	Ivysaur	Grass	Poison	405	60	62	63	80	80	60	1	False	Attack Low	Low Speed	Low HP
	2	3	Venusaur	Grass	Poison	525	80	82	83	100	100	80	1	False	Attack High	High Speed	High HP
	3	3	VenusaurMega Venusaur	Grass	Poison	625	80	100	123	122	120	80	1	False	Attack High	High Speed	High HP
	4	4	Charmander	Fire	NaN	309	39	52	43	60	50	65	1	False	Attack Low	Low Speed	Low HP
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	795	719	Diancie	Rock	Fairy	600	50	100	150	100	150	50	6	True	Attack High	Low Speed	Low HP
	796	719	DiancieMega Diancie	Rock	Fairy	700	50	160	110	160	110	110	6	True	Attack High	High Speed	Low HP
	797	720	HoopaHoopa Confined	Psychic	Ghost	600	80	110	60	150	130	70	6	True	Attack High	High Speed	High HP
	798	720	HoopaHoopa Unbound	Psychic	Dark	680	80	160	60	170	130	80	6	True	Attack High	High Speed	High HP
	799	721	Volcanion	Fire	Water	600	80	110	120	130	90	70	6	True	Attack High	High Speed	High HP

800 rows × 16 columns

In [ ]: