PYTHON INTERMEDIO - LECCIÓN NRO. 1

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Solicite al usuario que ingrese el nombre del archivo a leer ("info_autos.csv"), realice un control de todas las opciones que se puedan generar. A continuación resuelva los siguientes ítems.

In [16]:

```
import pandas as pd


continue_asking = True
while continue_asking:
    file_name = str(input("Ingrese el nombre del archivo a leer con la extension '.
    try:
        data = pd.read_csv(file_name, index_col=['index'])
        continue_asking = False
    except:
        print("Nombre de archivo incorrecto. Intente de nuevo")

data.head()
```

```
Ingrese el nombre del archivo a leer con la extension '.csv': data/inf
o_autos.csv
```

Out[16]:

index	company	body-style	wheel-base	length	engine-type	num-of-cylinders	horsepower	average-mileage	price
0	alfa-romero	convertible	88.6	168.8	dohc	four	111	21	13495.0
1	alfa-romero	convertible	88.6	168.8	dohc	four	111	21	16500.0
2	alfa-romero	hatchback	94.5	171.2	ohcv	six	154	19	16500.0
3	audi	sedan	99.8	176.6	ohc	four	102	24	13950.0
4	audi	sedan	99.4	176.6	ohc	five	115	18	17450.0

- desde el conjunto de datos dado, imprima la 2da. y las últimas 3 filas

In [17]:

```
data.iloc[[1, -1, -2, -3]]
```

Out[17]:

index	company	body-style	wheel-base	length	engine-type	num-of-cylinders	horsepower	average-mileage	pric
1	alfa-romero	convertible	88.6	168.8	dohc	four	111	21	16500.(
88	volvo	wagon	104.3	188.8	ohc	four	114	23	13415.(
87	volvo	sedan	104.3	188.8	ohc	four	114	23	12940.(
86	volkswagen	sedan	97.3	171.7	ohc	four	100	26	9995.(

- encuentre el nombre de la compañía de automóviles con menor precio

In [12]:

```
data[data.price == data.price.min()]
```

Out[12]:

index	company	body-style	wheel-base	length	engine-type	num-of-cylinders	horsepower	average-mileage	price
16	chevrolet	hatchback	88.4	141.1	l	three	48	47	5151.0

- ordenar todos los autos por la columna de precio

In [14]:

```
data.sort_values(by=['price'], inplace=True)
data
```

Out[14]:

index	company	body-style	wheel-base	length	engine-type	num-of-cylinders	horsepower	average-mileage	price
16	chevrolet	hatchback	88.4	141.1	l	three	48	47	5151.0
36	mazda	hatchback	93.1	159.1	ohc	four	68	30	5195.0
66	toyota	hatchback	95.7	158.7	ohc	four	62	35	5348.0
49	mitsubishi	hatchback	93.7	157.3	ohc	four	68	37	5389.0
37	mazda	hatchback	93.1	159.1	ohc	four	68	31	6095.0
...	...	...	...	...	...	...	...	...	...
14	bmw	sedan	103.5	193.8	ohc	six	182	16	41315.0
47	mercedes-benz	hardtop	112.0	199.2	ohcv	eight	184	14	45400.0
31	isuzu	sedan	94.5	155.9	ohc	four	70	38	NaN
32	isuzu	sedan	94.5	155.9	ohc	four	70	38	NaN
63	porsche	hatchback	98.4	175.7	dohcv	eight	288	17	NaN

61 rows × 9 columns

```
- imprima los datos estadisticos del archivo
```

In [15]:

```
data.describe()
```

Out[15]:

	wheel-base	length	horsepower	average-mileage	price
count	61.000000	61.000000	61.000000	61.000000	58.000000
mean	98.481967	173.098361	107.852459	25.803279	15387.000000
std	6.679234	14.021846	53.524398	8.129821	11320.259841
min	88.400000	141.100000	48.000000	13.000000	5151.000000
25%	94.500000	159.100000	68.000000	19.000000	6808.500000
50%	96.300000	171.200000	100.000000	25.000000	11095.000000
75%	101.200000	177.300000	123.000000	31.000000	18120.500000
max	120.900000	208.100000	288.000000	47.000000	45400.000000

```
- cree un conjunto de datos filtrado que solo tenga autos con caballos de fuerza inferior a 100
```

In [20]:

```
low_spec = data[data.horsepower < 100]
low_spec
```

Out[20]:

index	company	body-style	wheel-base	length	engine-type	num-of-cylinders	horsepower	average-mileage	price
16	chevrolet	hatchback	88.4	141.1	l	three	48	47	5151.0
17	chevrolet	hatchback	94.5	155.9	ohc	four	70	38	6295.0
18	chevrolet	sedan	94.5	158.8	ohc	four	70	38	6575.0
19	dodge	hatchback	93.7	157.3	ohc	four	68	31	6377.0
20	dodge	hatchback	93.7	157.3	ohc	four	68	31	6229.0
27	honda	wagon	96.5	157.1	ohc	four	76	30	7295.0
30	isuzu	sedan	94.3	170.7	ohc	four	78	24	6785.0
31	isuzu	sedan	94.5	155.9	ohc	four	70	38	NaN
32	isuzu	sedan	94.5	155.9	ohc	four	70	38	NaN
36	mazda	hatchback	93.1	159.1	ohc	four	68	30	5195.0
37	mazda	hatchback	93.1	159.1	ohc	four	68	31	6095.0
38	mazda	hatchback	93.1	159.1	ohc	four	68	31	6795.0
43	mazda	sedan	104.9	175.0	ohc	four	72	31	18344.0
49	mitsubishi	hatchback	93.7	157.3	ohc	four	68	37	5389.0
50	mitsubishi	hatchback	93.7	157.3	ohc	four	68	31	6189.0
51	mitsubishi	sedan	96.3	172.4	ohc	four	88	25	6989.0
52	mitsubishi	sedan	96.3	172.4	ohc	four	88	25	8189.0
53	nissan	sedan	94.5	165.3	ohc	four	55	45	7099.0
54	nissan	sedan	94.5	165.3	ohc	four	69	31	6649.0
55	nissan	sedan	94.5	165.3	ohc	four	69	31	6849.0
56	nissan	wagon	94.5	170.2	ohc	four	69	31	7349.0
66	toyota	hatchback	95.7	158.7	ohc	four	62	35	5348.0
67	toyota	hatchback	95.7	158.7	ohc	four	62	31	6338.0
68	toyota	hatchback	95.7	158.7	ohc	four	62	31	6488.0
69	toyota	wagon	95.7	169.7	ohc	four	62	31	6918.0
70	toyota	wagon	95.7	169.7	ohc	four	62	27	7898.0
71	toyota	wagon	95.7	169.7	ohc	four	62	27	8778.0
80	volkswagen	sedan	97.3	171.7	ohc	four	52	37	7775.0
81	volkswagen	sedan	97.3	171.7	ohc	four	85	27	7975.0
82	volkswagen	sedan	97.3	171.7	ohc	four	52	37	7995.0

In [ ]: