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Classwork 3a

In [5]:
```
import pandas as pd
df = pd.read_csv('heart.csv')
df
```

Out[5]:

	age	sex	chest_pain	rest_bp	chol	fbs	rest_ecg	max_hr	exang	old_peak	slope	ca	thal	disease
0	63	Male	typical	145	233	1	left ventricular hypertrophy	150	0	2.3	3	0.0	fixed	0
1	67	Male	asymptomatic	160	286	0	left ventricular hypertrophy	108	1	1.5	2	3.0	normal	1
2	67	Male	asymptomatic	120	229	0	left ventricular hypertrophy	129	1	2.6	2	2.0	reversable	1
3	37	Male	nonanginal	130	250	0	normal	187	0	3.5	3	0.0	normal	0
4	41	Female	nontypical	130	204	0	left ventricular hypertrophy	172	0	1.4	1	0.0	normal	0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
298	45	Male	typical	110	264	0	normal	132	0	1.2	2	0.0	reversable	1
299	68	Male	asymptomatic	144	193	1	normal	141	0	3.4	2	2.0	reversable	1
300	57	Male	asymptomatic	130	131	0	normal	115	1	1.2	2	1.0	reversable	1
301	57	Female	nontypical	130	236	0	left ventricular hypertrophy	174	0	0.0	2	1.0	normal	1
302	38	Male	nonanginal	138	175	0	normal	173	0	0.0	1	NaN	normal	0

303 rows × 14 columns

In [6]:
```
df['age'].head()
```

Out[6]:
```
0    63
1    67
2    67
3    37
4    41
Name: age, dtype: int64
```

In [7]:
```
df[['age']].head()
```

Out[7]:

	age
0	63
1	67
2	67
3	37
4	41

In [8]:
```
df[['age', 'sex', 'max_hr']].head()
```

Out[8]:

	age	sex	max_hr
0	63	Male	150
1	67	Male	108
2	67	Male	129
3	37	Male	187
4	41	Female	172

In [9]:
```
#last age = 60
first_25 = df.loc[0:24]
first_25
```

Out[9]:

	age	sex	chest_pain	rest_bp	chol	fbs	rest_ecg	max_hr	exang	old_peak	slope	ca	thal	disease
0	63	Male	typical	145	233	1	left ventricular hypertrophy	150	0	2.3	3	0.0	fixed	0
1	67	Male	asymptomatic	160	286	0	left ventricular hypertrophy	108	1	1.5	2	3.0	normal	1
2	67	Male	asymptomatic	120	229	0	left ventricular hypertrophy	129	1	2.6	2	2.0	reversable	1
3	37	Male	nonanginal	130	250	0	normal	187	0	3.5	3	0.0	normal	0
4	41	Female	nontypical	130	204	0	left ventricular hypertrophy	172	0	1.4	1	0.0	normal	0
5	56	Male	nontypical	120	236	0	normal	178	0	0.8	1	0.0	normal	0
6	62	Female	asymptomatic	140	268	0	left ventricular hypertrophy	160	0	3.6	3	2.0	normal	1
7	57	Female	asymptomatic	120	354	0	normal	163	1	0.6	1	0.0	normal	0
8	63	Male	asymptomatic	130	254	0	left ventricular hypertrophy	147	0	1.4	2	1.0	reversable	1
9	53	Male	asymptomatic	140	203	1	left ventricular hypertrophy	155	1	3.1	3	0.0	reversable	1
10	57	Male	asymptomatic	140	192	0	normal	148	0	0.4	2	0.0	fixed	0
11	56	Female	nontypical	140	294	0	left ventricular hypertrophy	153	0	1.3	2	0.0	normal	0
12	56	Male	nonanginal	130	256	1	left ventricular hypertrophy	142	1	0.6	2	1.0	fixed	1
13	44	Male	nontypical	120	263	0	normal	173	0	0.0	1	0.0	reversable	0
14	52	Male	nonanginal	172	199	1	normal	162	0	0.5	1	0.0	reversable	0
15	57	Male	nonanginal	150	168	0	normal	174	0	1.6	1	0.0	normal	0
16	48	Male	nontypical	110	229	0	normal	168	0	1.0	3	0.0	reversable	1
17	54	Male	asymptomatic	140	239	0	normal	160	0	1.2	1	0.0	normal	0
18	48	Female	nonanginal	130	275	0	normal	139	0	0.2	1	0.0	normal	0
19	49	Male	nontypical	130	266	0	normal	171	0	0.6	1	0.0	normal	0
20	64	Male	typical	110	211	0	left ventricular hypertrophy	144	1	1.8	2	0.0	normal	0
21	58	Female	typical	150	283	1	left ventricular hypertrophy	162	0	1.0	1	0.0	normal	0
22	58	Male	nontypical	120	284	0	left ventricular hypertrophy	160	0	1.8	2	0.0	normal	1
23	58	Male	nonanginal	132	224	0	left ventricular hypertrophy	173	0	3.2	1	2.0	reversable	1
24	60	Male	asymptomatic	130	206	0	left ventricular hypertrophy	132	1	2.4	2	2.0	reversable	1

In [10]:
```
#209 observations
df[df['age'] > 50]
```

Out[10]:

	age	sex	chest_pain	rest_bp	chol	fbs	rest_ecg	max_hr	exang	old_peak	slope	ca	thal	disease
0	63	Male	typical	145	233	1	left ventricular hypertrophy	150	0	2.3	3	0.0	fixed	0
1	67	Male	asymptomatic	160	286	0	left ventricular hypertrophy	108	1	1.5	2	3.0	normal	1
2	67	Male	asymptomatic	120	229	0	left ventricular hypertrophy	129	1	2.6	2	2.0	reversable	1
5	56	Male	nontypical	120	236	0	normal	178	0	0.8	1	0.0	normal	0
6	62	Female	asymptomatic	140	268	0	left ventricular hypertrophy	160	0	3.6	3	2.0	normal	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
296	59	Male	asymptomatic	164	176	1	left ventricular hypertrophy	90	0	1.0	2	2.0	fixed	1
297	57	Female	asymptomatic	140	241	0	normal	123	1	0.2	2	0.0	reversable	1
299	68	Male	asymptomatic	144	193	1	normal	141	0	3.4	2	2.0	reversable	1
300	57	Male	asymptomatic	130	131	0	normal	115	1	1.2	2	1.0	reversable	1
301	57	Female	nontypical	130	236	0	left ventricular hypertrophy	174	0	0.0	2	1.0	normal	1

209 rows × 14 columns

In [11]:
```
# 139 observations
df[(df['age'] > 50) & (df['sex'] == 'Male')].shape
```

Out[11]:
```
(139, 14)
```

In [32]:
```
df1 = df[(df['age'] <= 50) & (df['sex'] == 'Female') & (df['disease'] == 1)]
```

In [40]:
```
#There is 1 row and 3 columns
df1[['chest_pain', 'chol', 'max_hr']]
```

Out[40]:

	chest_pain	chol	max_hr
113	asymptomatic	341	136

In [ ]:
```

```