Numpy and Pandas

February 20, 2025

[ ]:
```
import pandas as pd
df=pd.read_csv('/content/drive/MyDrive/Colab Notebooks/ML-DSE4/weight-height.
 ↪csv')
```

[ ]:
```
df.head()
```

[ ]:

	Gender	Height	Weight
0	Male	73.847017	241.893563
1	Male	68.781904	162.310473
2	Male	74.110105	212.740856
3	Male	71.730978	220.042470
4	Male	69.881796	206.349801

[ ]:
```
print(df.shape)
```

```
(10000, 3)
```

[ ]:
```
print(df.loc[5])
```

```
Gender          Male
Height     67.253016
Weight    152.212156
Name: 5, dtype: object
```

[ ]:
```
print(df.loc[-140:-50]) #extracts records from index value 40 to index value 50
```

```
Empty DataFrame
Columns: [Gender, Height, Weight]
Index: []
```

[ ]:
```
print(df.loc[[10,12,13]][['Gender','Height']])
```

```
   Gender     Height
10   Male  71.195382
12   Male  64.766329
13   Male  69.283070
```

[ ]:
```
df.iloc[0]
```

[ ]:
```
Gender          Male
Height     73.847017
Weight    241.893563
Name: 0, dtype: object
```

[ ]:
```
df.iloc[0:5]
```

[ ]:
```
  Gender     Height      Weight
0   Male  73.847017  241.893563
1   Male  68.781904  162.310473
2   Male  74.110105  212.740856
3   Male  71.730978  220.042470
4   Male  69.881796  206.349801
```

[ ]:
```
df.iloc[40:80]
```

[ ]:
```
    Gender     Height      Weight
40    Male  67.974336  172.135597
41    Male  72.189426  194.045405
42    Male  65.270346  168.617746
43    Male  66.090177  161.193433
44    Male  67.510322  164.660277
45    Male  70.104786  188.922303
46    Male  68.251836  187.060552
47    Male  72.172709  209.070863
48    Male  69.179858  192.014335
49    Male  72.870360  211.342497
50    Male  64.782583  165.611626
51    Male  70.183550  201.071918
52    Male  68.491450  173.423960
53    Male  67.330831  181.407679
54    Male  66.990944  169.737707
55    Male  66.499550  163.309528
56    Male  68.353057  189.710210
57    Male  70.774459  192.124847
58    Male  71.215924  198.198464
59    Male  70.013365  209.526500
60    Male  71.403182  198.759793
61    Male  69.552005  198.079524
62    Male  73.818535  195.290612
63    Male  66.996883  164.943303
64    Male  71.418466  179.863902
65    Male  65.279300  155.250421
66    Male  68.274191  184.519391
67    Male  72.765370  220.678041
68    Male  68.099380  183.312655
69    Male  68.896706  196.451312
```

```
70   Male  69.289510  184.595608
71   Male  70.523225  207.532839
72   Male  69.663725  177.200929
73   Male  67.595269  163.108002
74   Male  72.508120  216.218230
75   Male  71.252986  204.655494
76   Male  71.809187  200.920571
77   Male  72.245165  220.901770
78   Male  66.512628  196.449860
79   Male  66.029034  168.640810
```

[ ]:
```
df.iloc[9000:-4]
```

[ ]:
```
      Gender     Height      Weight
9000  Female  58.525426  107.792496
9001  Female  60.340781  111.077754
9002  Female  61.433913   97.058549
9003  Female  65.475902  154.440887
9004  Female  60.484445  121.797793
…       …         …          …
9991  Female  62.636675  102.853563
9992  Female  62.077832  138.691680
9993  Female  60.030434   97.687432
9994  Female  59.098250  110.529686
9995  Female  66.172652  136.777454

[996 rows x 3 columns]
```

[ ]:
```
print(df[df['Weight']>170])
```

```
      Gender     Height      Weight
0       Male  73.847017  241.893563
2       Male  74.110105  212.740856
3       Male  71.730978  220.042470
4       Male  69.881796  206.349801
6       Male  68.785081  183.927889
…       …         …          …
9855  Female  68.139611  174.632558
9934  Female  68.259597  174.142421
9982  Female  69.868511  177.992066
9985  Female  68.041065  170.514213
9996  Female  67.067155  170.867906

[4203 rows x 3 columns]
```

[ ]:
```
print(df[df['Height']<89])
```

```
      Gender     Height      Weight
```

```
0       Male  73.847017  241.893563
1       Male  68.781904  162.310473
2       Male  74.110105  212.740856
3       Male  71.730978  220.042470
4       Male  69.881796  206.349801
…        …        …          …
9995  Female  66.172652  136.777454
9996  Female  67.067155  170.867906
9997  Female  63.867992  128.475319
9998  Female  69.034243  163.852461
9999  Female  61.944246  113.649103

[10000 rows x 3 columns]
```

[ ]:
```
print(df[(df['Height']<89) & (df['Height']>65)])
```

```
      Gender     Height      Weight
0       Male  73.847017  241.893563
1       Male  68.781904  162.310473
2       Male  74.110105  212.740856
3       Male  71.730978  220.042470
4       Male  69.881796  206.349801
…        …        …          …
9985  Female  68.041065  170.514213
9987  Female  65.610243  151.169475
9995  Female  66.172652  136.777454
9996  Female  67.067155  170.867906
9998  Female  69.034243  163.852461

[6190 rows x 3 columns]
```

[ ]:
```
print(df[(df['Height']<89) | (df['Height']>65)])
```

```
      Gender     Height      Weight
0       Male  73.847017  241.893563
1       Male  68.781904  162.310473
2       Male  74.110105  212.740856
3       Male  71.730978  220.042470
4       Male  69.881796  206.349801
…        …        …          …
9995  Female  66.172652  136.777454
9996  Female  67.067155  170.867906
9997  Female  63.867992  128.475319
9998  Female  69.034243  163.852461
9999  Female  61.944246  113.649103

[10000 rows x 3 columns]
```