

05-Operations

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1 Operations

There are lots of operations with pandas that will be really useful to you, but don't fall into any distinct category. Let's show them here in this lecture:

```
[52]: import pandas as pd
df = pd.DataFrame({'col1':[1,2,3,4], 'col2':[444,555,666,444], 'col3':
    ↳ ['abc', 'def', 'ghi', 'xyz']})
df.head()
```

```
[52]:   col1  col2 col3
0     1   444  abc
1     2   555  def
2     3   666  ghi
3     4   444  xyz
```

1.0.1 Info on Unique Values

```
[53]: df['col2'].unique()
```

```
[53]: array([444, 555, 666])
```

```
[54]: df['col2'].nunique()
```

```
[54]: 3
```

```
[55]: df['col2'].value_counts()
```

```
[55]: 444    2
      555    1
      666    1
      Name: col2, dtype: int64
```

1.0.2 Selecting Data

```
[56]: #Select from DataFrame using criteria from multiple columns
      newdf = df[(df['col1']>2) & (df['col2']==444)]
```

```
[57]: newdf
```

```
[57]:   col1  col2 col3
      3     4   444  xyz
```

1.0.3 Applying Functions

```
[58]: def times2(x):
      return x*2
```

```
[59]: df['col1'].apply(times2)
```

```
[59]: 0     2
      1     4
      2     6
      3     8
      Name: col1, dtype: int64
```

```
[60]: df['col3'].apply(len)
```

```
[60]: 0     3
      1     3
      2     3
      3     3
      Name: col3, dtype: int64
```

```
[61]: df['col1'].sum()
```

```
[61]: 10
```

1.0.4 Permanently Removing a Column

```
[62]: del df['col1']
```

```
[63]: df
```

```
[63]:   col2 col3
0    444  abc
1    555  def
2    666  ghi
3    444  xyz
```

1.0.5 Get column and index names:

```
[64]: df.columns
```

```
[64]: Index(['col2', 'col3'], dtype='object')
```

```
[65]: df.index
```

```
[65]: RangeIndex(start=0, stop=4, step=1)
```

1.0.6 Sorting and Ordering a DataFrame:

```
[66]: df
```

```
[66]:   col2 col3
0    444  abc
1    555  def
2    666  ghi
3    444  xyz
```

```
[67]: df.sort_values(by='col2') #inplace=False by default
```

```
[67]:   col2 col3
0    444  abc
3    444  xyz
1    555  def
2    666  ghi
```

2 Great Job!