DATA WRANGLING WITH PANDAS

DEFINING A DATAFRAMES

	col1	col2	col3
1	a	b	c
2	d	e	f
3	g	h	i

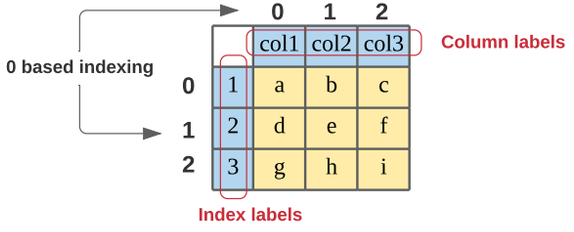
OPTION 1

```
DataFrame([[ 'a', 'b', 'c' ],
           [ 'd', 'e', 'f' ],
           [ 'g', 'h', 'i' ] ],
           index = [ 1, 2, 3],
           columns = [ 'col1', 'col2', 'col3'])
```

OPTION 2

```
DataFrame({ 'col1' :  [ 'a', 'd', 'g' ],
            'col2' :  [ 'b', 'e', 'h' ],
            'col3' :  [ 'c', 'f', 'i' ]},
            index = [ 1, 2, 3 ])
```

RETRIEVING DATA




```
Int64Index([1, 2, 3], dtype='int64')
```

df.columns df.index

```
Index(['col1', 'col2', 'col3'], dtype='object')
```

df.values

```
array([['a','b','c'],
       ['d','e','f'],
       ['g','h','i']], dtype = object)
```

df.loc[[0:2], [0:2]]

	col1	col2
1	a	b
2	d	e

df.loc[[1,2], ['col1', 'col2']]

COMBINING DATAFRAMES

pd.merge(df_1, df_2, how = ' ', on= ' ')

	col1	col2
1	A	2
2	K	9
3	Z	4

+

	col1	col3
1	A	3
2	K	8
3	X	1

= ?

	col1	col2	col3
1	A	2	3
2	K	9	8
3	Z	4	NaN

pd.merge(df_1, df_2, how = 'left', on= 'col1')

	col1	col2	col3
1	A	2	3
2	K	9	8
3	X	NaN	1

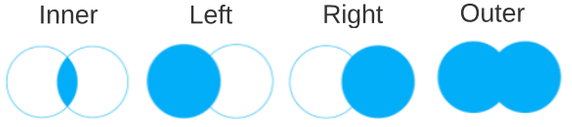
pd.merge(df_1, df_2, how = 'right', on= 'col1')

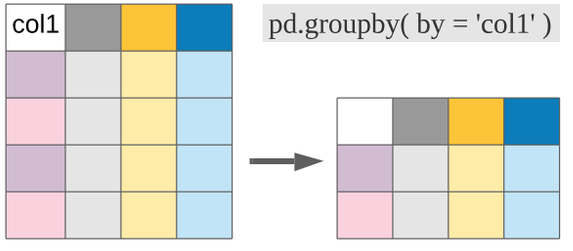
	col1	col2	col3
1	A	2	3
2	K	9	8

pd.merge(df_1, df_2, how = 'inner', on= 'col1')

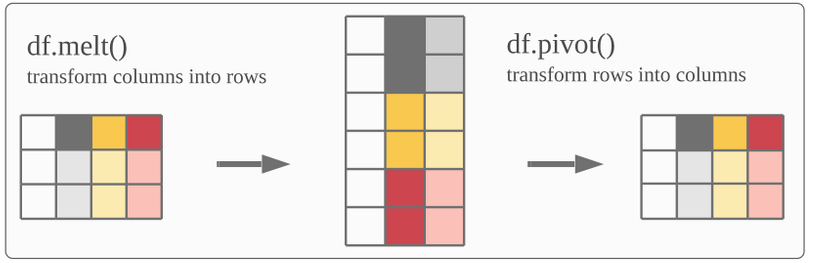
	col1	col2	col3
1	A	2	3
2	K	9	8
3	Z	4	NaN
4	X	NaN	1

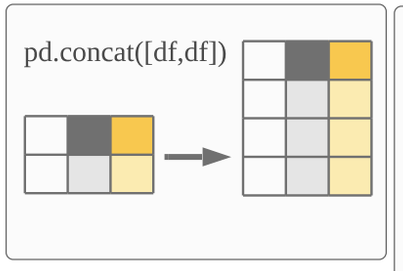
pd.merge(df_1, df_2, how = 'outer', on= 'col1')

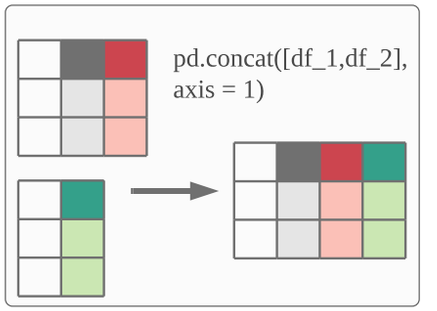


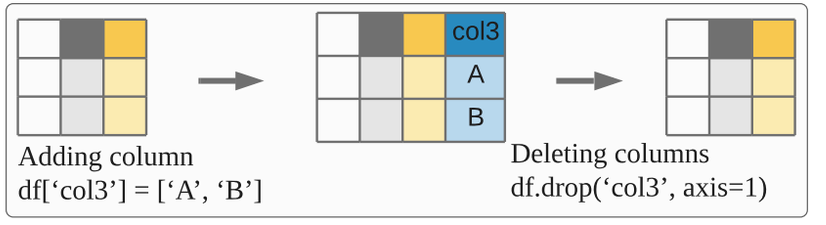


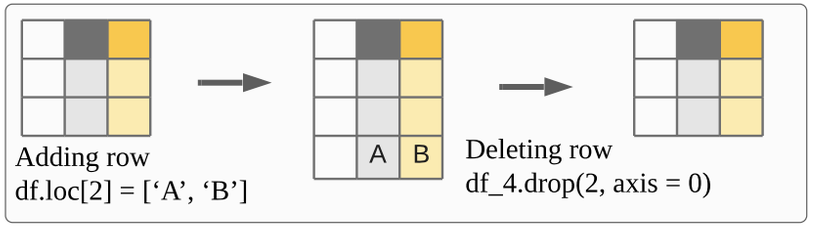
RESHAPING DATAFRAMES











DEALING WITH NULL VALUES