In [14]: ```
import pandas as pd
```

In [15]:  `pd.read_table('https://raw.githubusercontent.com/justmarkham/pandas-videos/master/data/chipotle.tsv')`

Out[15]:

| | order_id | quantity | item_name | choice_description | item_price |
|---|---|---|---|---|---|
| **0** | 1 | 1 | Chips and Fresh Tomato Salsa | NaN | $2.39 |
| **1** | 1 | 1 | Izze | [Clementine] | $3.39 |
| **2** | 1 | 1 | Nantucket Nectar | [Apple] | $3.39 |
| **3** | 1 | 1 | Chips and Tomatillo-Green Chili Salsa | NaN | $2.39 |
| **4** | 2 | 2 | Chicken Bowl | [Tomatillo-Red Chili Salsa (Hot), [Black Beans... | $16.98 |
| **5** | 3 | 1 | Chicken Bowl | [Fresh Tomato Salsa (Mild), [Rice, Cheese, Sou... | $10.98 |
| **6** | 3 | 1 | Side of Chips | NaN | $1.69 |
| **7** | 4 | 1 | Steak Burrito | [Tomatillo Red Chili Salsa, [Fajita Vegetables... | $11.75 |
| **8** | 4 | 1 | Steak Soft Tacos | [Tomatillo Green Chili Salsa, [Pinto Beans, Ch... | $9.25 |
| **9** | 5 | 1 | Steak Burrito | [Fresh Tomato Salsa, [Rice, Black Beans, Pinto... | $9.25 |
| **10** | 5 | 1 | Chips and Guacamole | NaN | $4.45 |
| **11** | 6 | 1 | Chicken Crispy Tacos | [Roasted Chili Corn Salsa, [Fajita Vegetables,... | $8.75 |
| **12** | 6 | 1 | Chicken Soft Tacos | [Roasted Chili Corn Salsa, [Rice, Black Beans,... | $8.75 |
| **13** | 7 | 1 | Chicken Bowl | [Fresh Tomato Salsa, [Fajita Vegetables, Rice,... | $11.25 |
| **14** | 7 | 1 | Chips and Guacamole | NaN | $4.45 |
| **15** | 8 | 1 | Chips and Tomatillo-Green Chili Salsa | NaN | $2.39 |
| **16** | 8 | 1 | Chicken Burrito | [Tomatillo-Green Chili Salsa (Medium), [Pinto ... | $8.49 |
| **17** | 9 | 1 | Chicken Burrito | [Fresh Tomato Salsa (Mild), [Black Beans, Rice... | $8.49 |
| **18** | 9 | 2 | Canned Soda | [Sprite] | $2.18 |
| **19** | 10 | 1 | Chicken Bowl | [Tomatillo Red Chili Salsa, [Fajita Vegetables... | $8.75 |

| | order_id | quantity | item_name | choice_description | item_price |
|---|---|---|---|---|---|
| **20** | 10 | 1 | Chips and Guacamole | NaN | $4.45 |
| **21** | 11 | 1 | Barbacoa Burrito | [[Fresh Tomato Salsa (Mild), Tomatillo-Green C... | $8.99 |
| **22** | 11 | 1 | Nantucket Nectar | [Pomegranate Cherry] | $3.39 |
| **23** | 12 | 1 | Chicken Burrito | [[Tomatillo-Green Chili Salsa (Medium), Tomati... | $10.98 |
| **24** | 12 | 1 | Izze | [Grapefruit] | $3.39 |
| **25** | 13 | 1 | Chips and Fresh Tomato Salsa | NaN | $2.39 |
| **26** | 13 | 1 | Chicken Bowl | [Roasted Chili Corn Salsa (Medium), [Pinto Bea... | $8.49 |
| **27** | 14 | 1 | Carnitas Burrito | [[Tomatillo-Green Chili Salsa (Medium), Roaste... | $8.99 |
| **28** | 14 | 1 | Canned Soda | [Dr. Pepper] | $1.09 |
| **29** | 15 | 1 | Chicken Burrito | [Tomatillo-Green Chili Salsa (Medium), [Pinto ... | $8.49 |
| **...** | ... | ... | ... | ... | ... |
| **4592** | 1825 | 1 | Barbacoa Burrito | [Tomatillo Red Chili Salsa, [Rice, Fajita Vege... | $11.75 |
| **4593** | 1825 | 1 | Carnitas Bowl | [Roasted Chili Corn Salsa, [Rice, Sour Cream, ... | $11.75 |
| **4594** | 1825 | 1 | Barbacoa Bowl | [Roasted Chili Corn Salsa, [Pinto Beans, Sour ... | $11.75 |
| **4595** | 1826 | 1 | Chicken Bowl | [Tomatillo Green Chili Salsa, [Rice, Black Bea... | $8.75 |
| **4596** | 1826 | 1 | Chips and Guacamole | NaN | $4.45 |
| **4597** | 1826 | 1 | Canned Soft Drink | [Nestea] | $1.25 |
| **4598** | 1826 | 1 | Bottled Water | NaN | $1.50 |
| **4599** | 1827 | 1 | Chicken Bowl | [Roasted Chili Corn Salsa, [Cheese, Lettuce]] | $8.75 |
| **4600** | 1827 | 1 | Chips and Guacamole | NaN | $4.45 |
| **4601** | 1827 | 1 | Canned Soft Drink | [Diet Coke] | $1.25 |
| **4602** | 1827 | 1 | Barbacoa Burrito | [Tomatillo Green Chili Salsa] | $9.25 |
| **4603** | 1827 | 1 | Barbacoa Burrito | [Tomatillo Green Chili Salsa] | $9.25 |

| | order_id | quantity | item_name | choice_description | item_price |
|---|---|---|---|---|---|
| **4604** | 1828 | 1 | Chicken Bowl | [Fresh Tomato Salsa, [Rice, Black Beans, Chees... | $8.75 |
| **4605** | 1828 | 1 | Chips and Guacamole | NaN | $4.45 |
| **4606** | 1828 | 1 | Canned Soft Drink | [Coke] | $1.25 |
| **4607** | 1829 | 1 | Steak Burrito | [Tomatillo Green Chili Salsa, [Rice, Cheese, S... | $11.75 |
| **4608** | 1829 | 1 | Veggie Burrito | [Tomatillo Red Chili Salsa, [Fajita Vegetables... | $11.25 |
| **4609** | 1829 | 1 | Canned Soft Drink | [Sprite] | $1.25 |
| **4610** | 1830 | 1 | Steak Burrito | [Fresh Tomato Salsa, [Rice, Sour Cream, Cheese... | $11.75 |
| **4611** | 1830 | 1 | Veggie Burrito | [Tomatillo Green Chili Salsa, [Rice, Fajita Ve... | $11.25 |
| **4612** | 1831 | 1 | Carnitas Bowl | [Fresh Tomato Salsa, [Fajita Vegetables, Rice,... | $9.25 |
| **4613** | 1831 | 1 | Chips | NaN | $2.15 |
| **4614** | 1831 | 1 | Bottled Water | NaN | $1.50 |
| **4615** | 1832 | 1 | Chicken Soft Tacos | [Fresh Tomato Salsa, [Rice, Cheese, Sour Cream]] | $8.75 |
| **4616** | 1832 | 1 | Chips and Guacamole | NaN | $4.45 |
| **4617** | 1833 | 1 | Steak Burrito | [Fresh Tomato Salsa, [Rice, Black Beans, Sour ... | $11.75 |
| **4618** | 1833 | 1 | Steak Burrito | [Fresh Tomato Salsa, [Rice, Sour Cream, Cheese... | $11.75 |
| **4619** | 1834 | 1 | Chicken Salad Bowl | [Fresh Tomato Salsa, [Fajita Vegetables, Pinto... | $11.25 |
| **4620** | 1834 | 1 | Chicken Salad Bowl | [Fresh Tomato Salsa, [Fajita Vegetables, Lettu... | $8.75 |
| **4621** | 1834 | 1 | Chicken Salad Bowl | [Fresh Tomato Salsa, [Fajita Vegetables, Pinto... | $8.75 |

4622 rows × 5 columns

```
In [17]: orders = pd.read_table('https://raw.githubusercontent.com/justmarkham/pandas-v
         ideos/master/data/chipotle.tsv')
```

In [19]:
```
orders.head()
```

Out[19]:

	order_id	quantity	item_name	choice_description	item_price
0	1	1	Chips and Fresh Tomato Salsa	NaN	$2.39
1	1	1	Izze	[Clementine]	$3.39
2	1	1	Nantucket Nectar	[Apple]	$3.39
3	1	1	Chips and Tomatillo-Green Chili Salsa	NaN	$2.39
4	2	2	Chicken Bowl	[Tomatillo-Red Chili Salsa (Hot), [Black Beans...	$16.98

In [26]:
```
user_cols = ['user_id','age','gender','occupation','zip_code']
users = pd.read_table('https://raw.githubusercontent.com/justmarkham/pandas-videos/master/data/u.user', sep='|', header=None, names=user_cols)
```

In [27]:
```
users.head()
```

Out[27]:

	user_id	age	gender	occupation	zip_code
0	1	24	M	technician	85711
1	2	53	F	other	94043
2	3	23	M	writer	32067
3	4	24	M	technician	43537
4	5	33	F	other	15213

In [30]:
```
ufo = pd.read_csv('https://raw.githubusercontent.com/justmarkham/pandas-videos/master/data/ufo.csv')
```

In [32]:
```
type(ufo)
```

Out[32]: `pandas.core.frame.DataFrame`

In [57]: `ufo.head()`

Out[57]:

	City	Colors Reported	Shape Reported	State	Time
0	Ithaca	NaN	TRIANGLE	NY	6/1/1930 22:00
1	Willingboro	NaN	OTHER	NJ	6/30/1930 20:00
2	Holyoke	NaN	OVAL	CO	2/15/1931 14:00
3	Abilene	NaN	DISK	KS	6/1/1931 13:00
4	New York Worlds Fair	NaN	LIGHT	NY	4/18/1933 19:00

In [43]: ufo['City']

```
Out[43]:  0                     Ithaca
          1                 Willingboro
          2                    Holyoke
          3                    Abilene
          4         New York Worlds Fair
          5                 Valley City
          6                 Crater Lake
          7                       Alma
          8                    Eklutna
          9                    Hubbard
          10                   Fontana
          11                  Waterloo
          12                    Belton
          13                    Keokuk
          14                 Ludington
          15               Forest Home
          16               Los Angeles
          17                 Hapeville
          18                    Oneida
          19                Bering Sea
          20                  Nebraska
          21                       NaN
          22                       NaN
          23                 Owensboro
          24                Wilderness
          25                 San Diego
          26                Wilderness
          27                    Clovis
          28                Los Alamos
          29               Ft. Duschene
                              ...
          18211                Holyoke
          18212                 Carson
          18213               Pasadena
          18214                 Austin
          18215               El Campo
          18216           Garden Grove
          18217          Berthoud Pass
          18218              Sisterdale
          18219           Garden Grove
          18220            Shasta Lake
          18221               Franklin
          18222          Albrightsville
          18223             Greenville
          18224                 Eufaula
          18225             Simi Valley
          18226          San Francisco
          18227          San Francisco
          18228             Kingsville
          18229                Chicago
          18230            Pismo Beach
          18231            Pismo Beach
          18232                   Lodi
          18233              Anchorage
          18234               Capitola
          18235         Fountain Hills
          18236             Grant Park
```

```
18237              Spirit Lake
18238              Eagle River
18239              Eagle River
18240                    Ybor
Name: City, Length: 18241, dtype: object
```

In [45]: `type(ufo['City'])`

Out[45]: pandas.core.series.Series

In [47]: ufo['Colors Reported']

```
Out[47]:  0          NaN
          1          NaN
          2          NaN
          3          NaN
          4          NaN
          5          NaN
          6          NaN
          7          NaN
          8          NaN
          9          NaN
          10         NaN
          11         NaN
          12         RED
          13         NaN
          14         NaN
          15         NaN
          16         NaN
          17         NaN
          18         NaN
          19         RED
          20         NaN
          21         NaN
          22         NaN
          23         NaN
          24         NaN
          25         NaN
          26         NaN
          27         NaN
          28         NaN
          29         NaN
                     ...
          18211      NaN
          18212      NaN
          18213      GREEN
          18214      NaN
          18215      NaN
          18216      ORANGE
          18217      NaN
          18218      NaN
          18219      NaN
          18220      BLUE
          18221      NaN
          18222      NaN
          18223      NaN
          18224      NaN
          18225      NaN
          18226      NaN
          18227      NaN
          18228      NaN
          18229      NaN
          18230      NaN
          18231      NaN
          18232      NaN
          18233      RED
          18234      NaN
          18235      NaN
          18236      NaN
```

```
18237         NaN
18238         NaN
18239         RED
18240         NaN
Name: Colors Reported, Length: 18241, dtype: object
```

In [56]: `ufo.head()`

Out[56]:

	City	Colors Reported	Shape Reported	State	Time	Location
0	Ithaca	NaN	TRIANGLE	NY	6/1/1930 22:00	Ithaca,NY
1	Willingboro	NaN	OTHER	NJ	6/30/1930 20:00	Willingboro,NJ
2	Holyoke	NaN	OVAL	CO	2/15/1931 14:00	Holyoke,CO
3	Abilene	NaN	DISK	KS	6/1/1931 13:00	Abilene,KS
4	New York Worlds Fair	NaN	LIGHT	NY	4/18/1933 19:00	New York Worlds Fair,NY

In [55]: `ufo['Location'] = ufo['City'] + ',' + ufo['State']`

```
In [57]:  ufo['Location']
```

```
Out[57]: 0                    Ithaca,NY
         1              Willingboro,NJ
         2                  Holyoke,CO
         3                  Abilene,KS
         4      New York Worlds Fair,NY
         5              Valley City,ND
         6               Crater Lake,CA
         7                     Alma,MI
         8                  Eklutna,AK
         9                  Hubbard,OR
         10                 Fontana,CA
         11                Waterloo,AL
         12                  Belton,SC
         13                  Keokuk,IA
         14              Ludington,MI
         15             Forest Home,CA
         16             Los Angeles,CA
         17               Hapeville,GA
         18                  Oneida,TN
         19              Bering Sea,AK
         20                Nebraska,NE
         21                        NaN
         22                        NaN
         23               Owensboro,KY
         24              Wilderness,WV
         25               San Diego,CA
         26              Wilderness,WV
         27                   Clovis,NM
         28              Los Alamos,NM
         29            Ft. Duschene,UT
                            ...
         18211             Holyoke,MA
         18212              Carson,CA
         18213            Pasadena,CA
         18214               Austin,TX
         18215            El Campo,TX
         18216        Garden Grove,CA
         18217        Berthoud Pass,CO
         18218           Sisterdale,TX
         18219        Garden Grove,CA
         18220          Shasta Lake,CA
         18221             Franklin,NH
         18222       Albrightsville,PA
         18223           Greenville,SC
         18224              Eufaula,OK
         18225           Simi Valley,CA
         18226        San Francisco,CA
         18227        San Francisco,CA
         18228           Kingsville,TX
         18229              Chicago,IL
         18230          Pismo Beach,CA
         18231          Pismo Beach,CA
         18232                 Lodi,WI
         18233            Anchorage,AK
         18234              Capitola,CA
         18235        Fountain Hills,AZ
         18236           Grant Park,IL
```

```
18237              Spirit Lake,IA
18238              Eagle River,WI
18239              Eagle River,WI
18240                    Ybor,FL
Name: Location, Length: 18241, dtype: object
```

In [59]: `movies = pd.read_csv('https://raw.githubusercontent.com/justmarkham/pandas-videos/master/data/imdb_1000.csv')`

In [60]: `movies.head()`

Out[60]:

	star_rating	title	content_rating	genre	duration	actors_list
0	9.3	The Shawshank Redemption	R	Crime	142	[u'Tim Robbins', u'Morgan Freeman', u'Bob Gunt...
1	9.2	The Godfather	R	Crime	175	[u'Marlon Brando', u'Al Pacino', u'James Caan']
2	9.1	The Godfather: Part II	R	Crime	200	[u'Al Pacino', u'Robert De Niro', u'Robert Duv...
3	9.0	The Dark Knight	PG-13	Action	152	[u'Christian Bale', u'Heath Ledger', u'Aaron E...
4	8.9	Pulp Fiction	R	Crime	154	[u'John Travolta', u'Uma Thurman', u'Samuel L....

In [64]: `movies.describe()`

Out[64]:

	star_rating	duration
count	979.000000	979.000000
mean	7.889785	120.979571
std	0.336069	26.218010
min	7.400000	64.000000
25%	7.600000	102.000000
50%	7.800000	117.000000
75%	8.100000	134.000000
max	9.300000	242.000000

```
In [68]:   movies.shape
```

Out[68]:   (979, 6)

```
In [74]:   movies.dtypes
```

Out[74]:   star_rating   float64
           title   object
           content_rating   object
           genre   object
           duration   int64
           actors_list   object
           dtype: object

```
In [75]:   movies.describe(include=['object'])
```

Out[75]:

	title	content_rating	genre	actors_list
count	979	976	979	979
unique	975	12	16	969
top	Les Miserables	R	Drama	[u'Daniel Radcliffe', u'Emma Watson', u'Rupert...
freq	2	460	278	6

```
In [77]:   ufo.columns
```

Out[77]:   Index(['City', 'Colors Reported', 'Shape Reported', 'State', 'Time',
                  'Location'],
                 dtype='object')

```
In [48]:   #rename COlumns
           ufo.rename(columns={'City':'city', 'Colors Reported':'Colors_Reported'})
```

```
           ---------------------------------------------------------------------------
           NameError                                 Traceback (most recent call last)
           <ipython-input-48-03b548265fd4> in <module>()
                 1 #rename COlumns
           ----> 2 ufo.rename(columns={'City':'city', 'Colors Reported':'Colors_Reporte
           d'})

           NameError: name 'ufo' is not defined
```

```
In [98]:   #rename all the columns simultaneosly
           ufo_cols = ['city','colors reported','shape reported','state','time','locatio
           n']
```

```
In [99]:   ufo.columns = ufo_cols
```

In [100]: `ufo.columns`

Out[100]: Index(['city', 'colors reported', 'shape reported', 'state', 'time',
             'location'],
           dtype='object')

In [101]: `ufo.head()`

Out[101]:

	city	colors reported	shape reported	state	time	location
0	Ithaca	NaN	TRIANGLE	NY	6/1/1930 22:00	Ithaca,NY
1	Willingboro	NaN	OTHER	NJ	6/30/1930 20:00	Willingboro,NJ
2	Holyoke	NaN	OVAL	CO	2/15/1931 14:00	Holyoke,CO
3	Abilene	NaN	DISK	KS	6/1/1931 13:00	Abilene,KS
4	New York Worlds Fair	NaN	LIGHT	NY	4/18/1933 19:00	New York Worlds Fair,NY

In [102]:
```python
#renaming columns at the time of loading file
ufo = pd.read_csv('https://raw.githubusercontent.com/justmarkham/pandas-video
s/master/data/ufo.csv', names=ufo_cols, header=0)
```

```
-------------------------------------------------------------------------
ParserError                               Traceback (most recent call last)
<ipython-input-102-771625d20979> in <module>()
----> 1 ufo = pd.read_csv('https://raw.githubusercontent.com/justmarkham/pa
ndas-videos/master/data/ufo.csv', names=ufo_cols, header=0)

~\AppData\Local\Continuum\anaconda3\lib\site-packages\pandas\io\parsers.py
 in parser_f(filepath_or_buffer, sep, delimiter, header, names, index_col,
 usecols, squeeze, prefix, mangle_dupe_cols, dtype, engine, converters, tru
e_values, false_values, skipinitialspace, skiprows, nrows, na_values, keep_
default_na, na_filter, verbose, skip_blank_lines, parse_dates, infer_dateti
me_format, keep_date_col, date_parser, dayfirst, iterator, chunksize, compr
ession, thousands, decimal, lineterminator, quotechar, quoting, escapechar,
 comment, encoding, dialect, tupleize_cols, error_bad_lines, warn_bad_line
s, skipfooter, skip_footer, doublequote, delim_whitespace, as_recarray, com
pact_ints, use_unsigned, low_memory, buffer_lines, memory_map, float_precis
ion)
    653                     skip_blank_lines=skip_blank_lines)
    654
--> 655         return _read(filepath_or_buffer, kwds)
    656
    657     parser_f.__name__ = name

~\AppData\Local\Continuum\anaconda3\lib\site-packages\pandas\io\parsers.py
 in _read(filepath_or_buffer, kwds)
    409
    410     try:
--> 411         data = parser.read(nrows)
    412     finally:
    413         parser.close()

~\AppData\Local\Continuum\anaconda3\lib\site-packages\pandas\io\parsers.py
 in read(self, nrows)
   1003                 raise ValueError('skipfooter not supported for iter
ation')
   1004
-> 1005         ret = self._engine.read(nrows)
   1006
   1007         if self.options.get('as_recarray'):

~\AppData\Local\Continuum\anaconda3\lib\site-packages\pandas\io\parsers.py
 in read(self, nrows)
   1746     def read(self, nrows=None):
   1747         try:
-> 1748             data = self._reader.read(nrows)
   1749         except StopIteration:
   1750             if self._first_chunk:

pandas/_libs/parsers.pyx in pandas._libs.parsers.TextReader.read (pandas\_l
ibs\parsers.c:10862)()

pandas/_libs/parsers.pyx in pandas._libs.parsers.TextReader._read_low_memor
y (pandas\_libs\parsers.c:11138)()

pandas/_libs/parsers.pyx in pandas._libs.parsers.TextReader._read_rows (pan
das\_libs\parsers.c:12175)()
```

pandas/_libs/parsers.pyx in pandas._libs.parsers.TextReader._convert_column
_data (pandas_libs\parsers.c:13137)**()**

ParserError: Too many columns specified: expected 6 and found 5

In [112]:
```
#replacing all the spaces from the columns
ufo.columns = ufo.columns.str.replace(' ' , '_')
```

In [113]:
```
ufo.columns
```

Out[113]:
```
Index(['___c___i___t___y___',
       '___c___o___l___o___r___s_____r___e___p___o___r___t___e___d___',
       '___s___h___a___p___e_____r___e___p___o___r___t___e___d___',
       '___s___t___a___t___e___', '___t___i___m___e___',
       '___l___o___c___a___t___i___o___n___'],
      dtype='object')
```

In [114]:
```
ufo.head()
```

Out[114]:

	___c___i___t___y___	___c___o___l___o___r___s_____r___e___p___o___r___t___e_
0	Ithaca	NaN
1	Willingboro	NaN
2	Holyoke	NaN
3	Abilene	NaN
4	New York Worlds Fair	NaN

In [49]:
```
ufo = pd.read_csv('https://raw.githubusercontent.com/justmarkham/pandas-video
s/master/data/ufo.csv')
```

In [50]:
```
ufo.head()
```

Out[50]:

	City	Colors Reported	Shape Reported	State	Time
0	Ithaca	NaN	TRIANGLE	NY	6/1/1930 22:00
1	Willingboro	NaN	OTHER	NJ	6/30/1930 20:00
2	Holyoke	NaN	OVAL	CO	2/15/1931 14:00
3	Abilene	NaN	DISK	KS	6/1/1931 13:00
4	New York Worlds Fair	NaN	LIGHT	NY	4/18/1933 19:00

In [123]:
```
ufo.shape
```

Out[123]: (18241, 5)

In [124]:
```
#remove columns from dataframe
ufo.drop('Colors Reported', axis = 1, inplace=True)
```

In [125]:
```
ufo.head()
```

Out[125]:

	City	Shape Reported	State	Time
0	Ithaca	TRIANGLE	NY	6/1/1930 22:00
1	Willingboro	OTHER	NJ	6/30/1930 20:00
2	Holyoke	OVAL	CO	2/15/1931 14:00
3	Abilene	DISK	KS	6/1/1931 13:00
4	New York Worlds Fair	LIGHT	NY	4/18/1933 19:00

In [127]:
```
#removing 2 columns from the data table
ufo.drop(['City','State'] , axis = 1, inplace= True)
```

In [128]:
```
ufo.head()
```

Out[128]:

	Shape Reported	Time
0	TRIANGLE	6/1/1930 22:00
1	OTHER	6/30/1930 20:00
2	OVAL	2/15/1931 14:00
3	DISK	6/1/1931 13:00
4	LIGHT	4/18/1933 19:00

In [130]:
```
#deleting rows
ufo.drop([0,1], axis=0,inplace=True)
```

In [131]:
```
ufo.head()
```

Out[131]:

	Shape Reported	Time
2	OVAL	2/15/1931 14:00
3	DISK	6/1/1931 13:00
4	LIGHT	4/18/1933 19:00
5	DISK	9/15/1934 15:30
6	CIRCLE	6/15/1935 0:00

In [132]:
```
movies = pd.read_csv('https://raw.githubusercontent.com/justmarkham/pandas-vid
eos/master/data/imdb_1000.csv')
```

In [133]: `movies.head()`

Out[133]:

	star_rating	title	content_rating	genre	duration	actors_list
0	9.3	The Shawshank Redemption	R	Crime	142	[u'Tim Robbins', u'Morgan Freeman', u'Bob Gunt...
1	9.2	The Godfather	R	Crime	175	[u'Marlon Brando', u'Al Pacino', u'James Caan']
2	9.1	The Godfather: Part II	R	Crime	200	[u'Al Pacino', u'Robert De Niro', u'Robert Duv...
3	9.0	The Dark Knight	PG-13	Action	152	[u'Christian Bale', u'Heath Ledger', u'Aaron E...
4	8.9	Pulp Fiction	R	Crime	154	[u'John Travolta', u'Uma Thurman', u'Samuel L....

In [135]: `movies['title']`

```
Out[135]: 0                   The Shawshank Redemption
          1                              The Godfather
          2                      The Godfather: Part II
          3                            The Dark Knight
          4                               Pulp Fiction
          5                               12 Angry Men
          6               The Good, the Bad and the Ugly
          7     The Lord of the Rings: The Return of the King
          8                            Schindler's List
          9                                  Fight Club
          10    The Lord of the Rings: The Fellowship of the Ring
          11                                   Inception
          12    Star Wars: Episode V - The Empire Strikes Back
          13                                Forrest Gump
          14          The Lord of the Rings: The Two Towers
          15                                Interstellar
          16             One Flew Over the Cuckoo's Nest
          17                               Seven Samurai
          18                                  Goodfellas
          19                                   Star Wars
          20                                  The Matrix
          21                                 City of God
          22                        It's a Wonderful Life
          23                          The Usual Suspects
          24                                       Se7en
          25                            Life Is Beautiful
          26              Once Upon a Time in the West
          27                     The Silence of the Lambs
          28                       Leon: The Professional
          29                                 City Lights
                                        ...
          949                                 Home Alone
          950                                      Bound
          951                              Sleepy Hollow
          952                                Pirate Radio
          953                        The NeverEnding Story
          954                                      X-Men
          955                            Zero Dark Thirty
          956                    Manhattan Murder Mystery
          957                  National Lampoon's Vacation
          958                           My Sister's Keeper
          959                         Deconstructing Harry
          960                            The Way Way Back
          961                                      Capote
          962                          Driving Miss Daisy
          963                            La Femme Nikita
          964                                    Lincoln
          965                                   Limitless
          966                         The Simpsons Movie
          967                                   The Rock
          968                         The English Patient
          969                         Law Abiding Citizen
          970                                Wonder Boys
          971                         Death at a Funeral
          972                             Blue Valentine
          973                      The Cider House Rules
          974                                     Tootsie
```

```
975                            Back to the Future Part III
976      Master and Commander: The Far Side of the World
977                                        Poltergeist
978                                        Wall Street
Name: title, Length: 979, dtype: object
```

In [137]:
```python
#sorting the data in descending order
movies['title'].sort_values(ascending=False)
```

```
Out[137]:  864                              [Rec]
           526                               Zulu
           615                         Zombieland
           677                             Zodiac
           955                   Zero Dark Thirty
           535                              Zelig
           280                 Young Frankenstein
           96                             Yojimbo
           235                             Yip Man
           403                         Ying xiong
           695                 Y Tu Mama Tambien
           871                                 X2
           532                 X-Men: First Class
           248          X-Men: Days of Future Past
           954                              X-Men
           518                      Wreck-It Ralph
           970                        Wonder Boys
           65           Witness for the Prosecution
           920                            Witness
           483                       Withnail & I
           270                    Wings of Desire
           497    Willy Wonka & the Chocolate Factory
           127                  Wild Strawberries
           219       Who's Afraid of Virginia Woolf?
           669             Who Framed Roger Rabbit
           33                            Whiplash
           649                  Where Eagles Dare
           719              When Harry Met Sally...
           562           What's Eating Gilbert Grape
           207       What Ever Happened to Baby Jane?
                                         ...
           426                          A Prophet
           865                     A Perfect World
           869           A Nightmare on Elm Street
           883               A History of Violence
           612                 A Hard Day's Night
           276                A Fistful of Dollars
           750                A Fish Called Wanda
           716                      A Few Good Men
           86                  A Clockwork Orange
           266                  A Christmas Story
           571                        A Bronx Tale
           941                   A Bridge Too Far
           170                   A Beautiful Mind
           203                             8 1/2
           597                              50/50
           824                                 42
           427          4 Months, 3 Weeks and 2 Days
           555                       3:10 to Yuma
           570                                300
           225                             3-Iron
           60                            3 Idiots
           708                   28 Days Later...
           624                          25th Hour
           596                           21 Grams
           910                               2046
           110              2001: A Space Odyssey
```

1/15/2018

Panda

```
698                           127 Hours
201                      12 Years a Slave
5                           12 Angry Men
542                   (500) Days of Summer
Name: title, Length: 979, dtype: object
```

file:///D:/Users/pritespa/Downloads/Panda.html   29/115

In [138]: *#sorting the values in ascending*

movies['title'].sort_values()

```
Out[138]:   542                  (500) Days of Summer
            5                        12 Angry Men
            201                   12 Years a Slave
            698                         127 Hours
            110               2001: A Space Odyssey
            910                              2046
            596                          21 Grams
            624                         25th Hour
            708                   28 Days Later...
            60                          3 Idiots
            225                           3-Iron
            570                              300
            555                    3:10 to Yuma
            427       4 Months, 3 Weeks and 2 Days
            824                               42
            597                            50/50
            203                            8 1/2
            170                 A Beautiful Mind
            941                   A Bridge Too Far
            571                      A Bronx Tale
            266                  A Christmas Story
            86                 A Clockwork Orange
            716                    A Few Good Men
            750                A Fish Called Wanda
            276               A Fistful of Dollars
            612                  A Hard Day's Night
            883               A History of Violence
            869            A Nightmare on Elm Street
            865                    A Perfect World
            426                         A Prophet
                                     ...
            207       What Ever Happened to Baby Jane?
            562         What's Eating Gilbert Grape
            719             When Harry Met Sally...
            649                  Where Eagles Dare
            33                          Whiplash
            669             Who Framed Roger Rabbit
            219        Who's Afraid of Virginia Woolf?
            127                  Wild Strawberries
            497     Willy Wonka & the Chocolate Factory
            270                   Wings of Desire
            483                    Withnail & I
            920                          Witness
            65           Witness for the Prosecution
            970                       Wonder Boys
            518                    Wreck-It Ralph
            954                            X-Men
            248           X-Men: Days of Future Past
            532                X-Men: First Class
            871                              X2
            695                Y Tu Mama Tambien
            403                        Ying xiong
            235                          Yip Man
            96                           Yojimbo
            280               Young Frankenstein
            535                            Zelig
            955                 Zero Dark Thirty
```

```
677                                    Zodiac
615                                Zombieland
526                                      Zulu
864                                     [Rec]
Name: title, Length: 979, dtype: object
```

In [140]:
```
#sorting a partucular  dataframes columns along with its values
movies.sort_values('title')
#for sorting the values in descending order
movies.sort_values('title',ascending=False)
```

Out[140]:

	star_rating	title	content_rating	genre	duration	actors_list
864	7.5	[Rec]	R	Horror	78	[u'Manuela Velasco', u'Ferran Terraza', u'Jorg...
526	7.8	Zulu	UNRATED	Drama	138	[u'Stanley Baker', u'Jack Hawkins', u'Ulla Jac...
615	7.7	Zombieland	R	Comedy	88	[u'Jesse Eisenberg', u'Emma Stone', u'Woody Ha...
677	7.7	Zodiac	R	Crime	157	[u'Jake Gyllenhaal', u'Robert Downey Jr.', u'M...
955	7.4	Zero Dark Thirty	R	Drama	157	[u'Jessica Chastain', u'Joel Edgerton', u'Chri...
535	7.8	Zelig	PG	Comedy	79	[u'Woody Allen', u'Mia Farrow', u'Patrick Horg...
280	8.1	Young Frankenstein	PG	Comedy	106	[u'Gene Wilder', u'Madeline Kahn', u'Marty Fel...
96	8.4	Yojimbo	UNRATED	Action	110	[u'Toshir\xf4 Mifune', u'Eijir\xf4 T\xf4no', u...
235	8.1	Yip Man	R	Action	106	[u'Donnie Yen', u'Simon Yam', u'Siu-Wong Fan']

	star_rating	title	content_rating	genre	duration	actors_list
403	7.9	Ying xiong	PG-13	Action	99	[u'Jet Li', u'Tony Chiu Wai Leung', u'Maggie C...
695	7.7	Y Tu Mama Tambien	R	Drama	106	[u'Maribel Verd\xfa', u'Gael Garc\xeda Bernal'...
871	7.5	X2	PG-13	Action	134	[u'Patrick Stewart', u'Hugh Jackman', u'Halle ...
532	7.8	X-Men: First Class	PG-13	Action	132	[u'James McAvoy', u'Michael Fassbender', u'Jen...
248	8.1	X-Men: Days of Future Past	PG-13	Action	131	[u'Patrick Stewart', u'Ian McKellen', u'Hugh J...
954	7.4	X-Men	PG-13	Action	104	[u'Patrick Stewart', u'Hugh Jackman', u'Ian Mc...
518	7.8	Wreck-It Ralph	PG	Animation	101	[u'John C. Reilly', u'Jack McBrayer', u'Jane L...
970	7.4	Wonder Boys	R	Drama	107	[u'Michael Douglas', u'Tobey Maguire', u'Franc...
65	8.4	Witness for the Prosecution	APPROVED	Crime	116	[u'Tyrone Power', u'Marlene Dietrich', u'Charl...

	star_rating	title	content_rating	genre	duration	actors_list
920	7.5	Witness	R	Crime	112	[u'Harrison Ford', u'Kelly McGillis', u'Lukas ...
483	7.8	Withnail & I	R	Comedy	107	[u'Richard E. Grant', u'Paul McGann', u'Richar...
270	8.1	Wings of Desire	PG-13	Drama	128	[u'Bruno Ganz', u'Solveig Dommartin', u'Otto S...
497	7.8	Willy Wonka & the Chocolate Factory	G	Family	100	[u'Gene Wilder', u'Jack Albertson', u'Peter Os...
127	8.3	Wild Strawberries	UNRATED	Drama	91	[u'Victor Sj\xf6str\xf6m', u'Bibi Andersson', ...
219	8.1	Who's Afraid of Virginia Woolf?	TV-MA	Drama	131	[u'Elizabeth Taylor', u'Richard Burton', u'Geo...
669	7.7	Who Framed Roger Rabbit	PG	Animation	104	[u'Bob Hoskins', u'Christopher Lloyd', u'Joann...
33	8.6	Whiplash	R	Drama	107	[u'Miles Teller', u'J.K. Simmons', u'Melissa B...
649	7.7	Where Eagles Dare	NaN	Action	158	[u'Richard Burton', u'Clint Eastwood', u'Mary ...
719	7.6	When Harry Met Sally...	R	Comedy	96	[u'Billy Crystal', u'Meg Ryan', u'Carrie Fisher']

	star_rating	title	content_rating	genre	duration	actors_list
562	7.8	What's Eating Gilbert Grape	PG-13	Drama	118	[u'Johnny Depp', u'Leonardo DiCaprio', u'Julie...
207	8.1	What Ever Happened to Baby Jane?	APPROVED	Drama	134	[u'Bette Davis', u'Joan Crawford', u'Victor Bu...
...	...	...	...	...	...	...
426	7.9	A Prophet	R	Crime	155	[u'Tahar Rahim', u'Niels Arestrup', u'Adel Ben...
865	7.5	A Perfect World	PG-13	Crime	138	[u'Kevin Costner', u'Clint Eastwood', u'Laura ...
869	7.5	A Nightmare on Elm Street	R	Horror	91	[u'Heather Langenkamp', u'Johnny Depp', u'Robe...
883	7.5	A History of Violence	R	Crime	96	[u'Viggo Mortensen', u'Maria Bello', u'Ed Harr...
612	7.7	A Hard Day's Night	APPROVED	Comedy	87	[u'John Lennon', u'Paul McCartney', u'George H...
276	8.1	A Fistful of Dollars	R	Action	99	[u'Clint Eastwood', u'Gian Maria Volont\xe9', ...
750	7.6	A Fish Called Wanda	R	Comedy	108	[u'John Cleese', u'Jamie Lee Curtis', u'Kevin ...

	star_rating	title	content_rating	genre	duration	actors_list
716	7.6	A Few Good Men	R	Drama	138	[u'Tom Cruise', u'Jack Nicholson', u'Demi Moore']
86	8.4	A Clockwork Orange	X	Crime	136	[u'Malcolm McDowell', u'Patrick Magee', u'Mich...
266	8.1	A Christmas Story	PG	Comedy	94	[u'Peter Billingsley', u'Melinda Dillon', u'Da...
571	7.8	A Bronx Tale	R	Crime	121	[u'Robert De Niro', u'Chazz Palminteri', u'Lil...
941	7.4	A Bridge Too Far	PG	Drama	175	[u'Sean Connery', u"Ryan O'Neal", u'Michael Ca...
170	8.2	A Beautiful Mind	PG-13	Biography	135	[u'Russell Crowe', u'Ed Harris', u'Jennifer Co...
203	8.1	8 1/2	NOT RATED	Drama	138	[u'Marcello Mastroianni', u'Anouk Aim\xe9e', u...
597	7.7	50/50	R	Comedy	100	[u'Joseph Gordon-Levitt', u'Seth Rogen', u'Ann...
824	7.5	42	PG-13	Biography	128	[u'Chadwick Boseman', u'T.R. Knight', u'Harris...

	star_rating	title	content_rating	genre	duration	actors_list
427	7.9	4 Months, 3 Weeks and 2 Days	NOT RATED	Drama	113	[u'Anamaria Marinca', u'Vlad Ivanov', u'Laura ...
555	7.8	3:10 to Yuma	R	Adventure	122	[u'Russell Crowe', u'Christian Bale', u'Ben Fo...
570	7.8	300	R	Action	117	[u'Gerard Butler', u'Lena Headey', u'David Wen...
225	8.1	3-Iron	R	Crime	88	[u'Seung-yeon Lee', u'Hyun-kyoon Lee', u'Hyuk-...
60	8.5	3 Idiots	PG-13	Comedy	170	[u'Aamir Khan', u'Madhavan', u'Mona Singh']
708	7.6	28 Days Later...	R	Horror	113	[u'Cillian Murphy', u'Naomie Harris', u'Christ...
624	7.7	25th Hour	R	Crime	135	[u'Edward Norton', u'Barry Pepper', u'Philip S...
596	7.7	21 Grams	R	Crime	124	[u'Sean Penn', u'Benicio Del Toro', u'Naomi Wa...
910	7.5	2046	R	Drama	129	[u'Tony Chiu Wai Leung', u'Ziyi Zhang', u'Faye...
110	8.3	2001: A Space Odyssey	G	Mystery	160	[u'Keir Dullea', u'Gary Lockwood', u'William S...

	star_rating	title	content_rating	genre	duration	actors_list
698	7.6	127 Hours	R	Adventure	94	[u'James Franco', u'Amber Tamblyn', u'Kate Mara']
201	8.1	12 Years a Slave	R	Biography	134	[u'Chiwetel Ejiofor', u'Michael Kenneth Willia...
5	8.9	12 Angry Men	NOT RATED	Drama	96	[u'Henry Fonda', u'Lee J. Cobb', u'Martin Bals...
542	7.8	(500) Days of Summer	PG-13	Comedy	95	[u'Zooey Deschanel', u'Joseph Gordon-Levitt', ...

979 rows × 6 columns

In [142]:
```
#sorting 2 columns simultaneosly
movies.sort_values(['title','genre'])
```

Out[142]:

	star_rating	title	content_rating	genre	duration	actors_list
542	7.8	(500) Days of Summer	PG-13	Comedy	95	[u'Zooey Deschanel', u'Joseph Gordon-Levitt', ...
5	8.9	12 Angry Men	NOT RATED	Drama	96	[u'Henry Fonda', u'Lee J. Cobb', u'Martin Bals...
201	8.1	12 Years a Slave	R	Biography	134	[u'Chiwetel Ejiofor', u'Michael Kenneth Willia...
698	7.6	127 Hours	R	Adventure	94	[u'James Franco', u'Amber Tamblyn', u'Kate Mara']
110	8.3	2001: A Space Odyssey	G	Mystery	160	[u'Keir Dullea', u'Gary Lockwood', u'William S...
910	7.5	2046	R	Drama	129	[u'Tony Chiu Wai Leung', u'Ziyi Zhang', u'Faye...
596	7.7	21 Grams	R	Crime	124	[u'Sean Penn', u'Benicio Del Toro', u'Naomi Wa...
624	7.7	25th Hour	R	Crime	135	[u'Edward Norton', u'Barry Pepper', u'Philip S...
708	7.6	28 Days Later...	R	Horror	113	[u'Cillian Murphy', u'Naomie Harris', u'Christ...

	star_rating	title	content_rating	genre	duration	actors_list
60	8.5	3 Idiots	PG-13	Comedy	170	[u'Aamir Khan', u'Madhavan', u'Mona Singh']
225	8.1	3-Iron	R	Crime	88	[u'Seung-yeon Lee', u'Hyun-kyoon Lee', u'Hyuk-...
570	7.8	300	R	Action	117	[u'Gerard Butler', u'Lena Headey', u'David Wen...
555	7.8	3:10 to Yuma	R	Adventure	122	[u'Russell Crowe', u'Christian Bale', u'Ben Fo...
427	7.9	4 Months, 3 Weeks and 2 Days	NOT RATED	Drama	113	[u'Anamaria Marinca', u'Vlad Ivanov', u'Laura ...
824	7.5	42	PG-13	Biography	128	[u'Chadwick Boseman', u'T.R. Knight', u'Harris...
597	7.7	50/50	R	Comedy	100	[u'Joseph Gordon-Levitt', u'Seth Rogen', u'Ann...
203	8.1	8 1/2	NOT RATED	Drama	138	[u'Marcello Mastroianni', u'Anouk Aim\xe9e', u...
170	8.2	A Beautiful Mind	PG-13	Biography	135	[u'Russell Crowe', u'Ed Harris', u'Jennifer Co...

	star_rating	title	content_rating	genre	duration	actors_list
941	7.4	A Bridge Too Far	PG	Drama	175	[u'Sean Connery', u"Ryan O'Neal", u'Michael Ca...
571	7.8	A Bronx Tale	R	Crime	121	[u'Robert De Niro', u'Chazz Palminteri', u'Lil...
266	8.1	A Christmas Story	PG	Comedy	94	[u'Peter Billingsley', u'Melinda Dillon', u'Da...
86	8.4	A Clockwork Orange	X	Crime	136	[u'Malcolm McDowell', u'Patrick Magee', u'Mich...
716	7.6	A Few Good Men	R	Drama	138	[u'Tom Cruise', u'Jack Nicholson', u'Demi Moore']
750	7.6	A Fish Called Wanda	R	Comedy	108	[u'John Cleese', u'Jamie Lee Curtis', u'Kevin ...
276	8.1	A Fistful of Dollars	R	Action	99	[u'Clint Eastwood', u'Gian Maria Volont\xe9', ...
612	7.7	A Hard Day's Night	APPROVED	Comedy	87	[u'John Lennon', u'Paul McCartney', u'George H...
883	7.5	A History of Violence	R	Crime	96	[u'Viggo Mortensen', u'Maria Bello', u'Ed Harr...

	star_rating	title	content_rating	genre	duration	actors_list
869	7.5	A Nightmare on Elm Street	R	Horror	91	[u'Heather Langenkamp', u'Johnny Depp', u'Robe...
865	7.5	A Perfect World	PG-13	Crime	138	[u'Kevin Costner', u'Clint Eastwood', u'Laura ...
426	7.9	A Prophet	R	Crime	155	[u'Tahar Rahim', u'Niels Arestrup', u'Adel Ben...
...	...	...	...	...	...	...
207	8.1	What Ever Happened to Baby Jane?	APPROVED	Drama	134	[u'Bette Davis', u'Joan Crawford', u'Victor Bu...
562	7.8	What's Eating Gilbert Grape	PG-13	Drama	118	[u'Johnny Depp', u'Leonardo DiCaprio', u'Julie...
719	7.6	When Harry Met Sally...	R	Comedy	96	[u'Billy Crystal', u'Meg Ryan', u'Carrie Fisher']
649	7.7	Where Eagles Dare	NaN	Action	158	[u'Richard Burton', u'Clint Eastwood', u'Mary ...
33	8.6	Whiplash	R	Drama	107	[u'Miles Teller', u'J.K. Simmons', u'Melissa B...
669	7.7	Who Framed Roger Rabbit	PG	Animation	104	[u'Bob Hoskins', u'Christopher Lloyd', u'Joann...

	star_rating	title	content_rating	genre	duration	actors_list
219	8.1	Who's Afraid of Virginia Woolf?	TV-MA	Drama	131	[u'Elizabeth Taylor', u'Richard Burton', u'Geo...
127	8.3	Wild Strawberries	UNRATED	Drama	91	[u'Victor Sj\xf6str\xf6m', u'Bibi Andersson', ...
497	7.8	Willy Wonka & the Chocolate Factory	G	Family	100	[u'Gene Wilder', u'Jack Albertson', u'Peter Os...
270	8.1	Wings of Desire	PG-13	Drama	128	[u'Bruno Ganz', u'Solveig Dommartin', u'Otto S...
483	7.8	Withnail & I	R	Comedy	107	[u'Richard E. Grant', u'Paul McGann', u'Richar...
920	7.5	Witness	R	Crime	112	[u'Harrison Ford', u'Kelly McGillis', u'Lukas ...
65	8.4	Witness for the Prosecution	APPROVED	Crime	116	[u'Tyrone Power', u'Marlene Dietrich', u'Charl...
970	7.4	Wonder Boys	R	Drama	107	[u'Michael Douglas', u'Tobey Maguire', u'Franc...
518	7.8	Wreck-It Ralph	PG	Animation	101	[u'John C. Reilly', u'Jack McBrayer', u'Jane L...

	star_rating	title	content_rating	genre	duration	actors_list
954	7.4	X-Men	PG-13	Action	104	[u'Patrick Stewart', u'Hugh Jackman', u'Ian Mc...
248	8.1	X-Men: Days of Future Past	PG-13	Action	131	[u'Patrick Stewart', u'Ian McKellen', u'Hugh J...
532	7.8	X-Men: First Class	PG-13	Action	132	[u'James McAvoy', u'Michael Fassbender', u'Jen...
871	7.5	X2	PG-13	Action	134	[u'Patrick Stewart', u'Hugh Jackman', u'Halle ...
695	7.7	Y Tu Mama Tambien	R	Drama	106	[u'Maribel Verd\xfa', u'Gael Garc\xeda Bernal'...
403	7.9	Ying xiong	PG-13	Action	99	[u'Jet Li', u'Tony Chiu Wai Leung', u'Maggie C...
235	8.1	Yip Man	R	Action	106	[u'Donnie Yen', u'Simon Yam', u'Siu-Wong Fan']
96	8.4	Yojimbo	UNRATED	Action	110	[u'Toshir\xf4 Mifune', u'Eijir\xf4 T\xf4no', u...
280	8.1	Young Frankenstein	PG	Comedy	106	[u'Gene Wilder', u'Madeline Kahn', u'Marty Fel...

	star_rating	title	content_rating	genre	duration	actors_list
535	7.8	Zelig	PG	Comedy	79	[u'Woody Allen', u'Mia Farrow', u'Patrick Horg...
955	7.4	Zero Dark Thirty	R	Drama	157	[u'Jessica Chastain', u'Joel Edgerton', u'Chri...
677	7.7	Zodiac	R	Crime	157	[u'Jake Gyllenhaal', u'Robert Downey Jr.', u'M...
615	7.7	Zombieland	R	Comedy	88	[u'Jesse Eisenberg', u'Emma Stone', u'Woody Ha...
526	7.8	Zulu	UNRATED	Drama	138	[u'Stanley Baker', u'Jack Hawkins', u'Ulla Jac...
864	7.5	[Rec]	R	Horror	78	[u'Manuela Velasco', u'Ferran Terraza', u'Jorg...

979 rows × 6 columns

In [143]: `movies = pd.read_csv('https://raw.githubusercontent.com/justmarkham/pandas-videos/master/data/imdb_1000.csv')`

In [144]: `movies.head()`

Out[144]:

	star_rating	title	content_rating	genre	duration	actors_list
0	9.3	The Shawshank Redemption	R	Crime	142	[u'Tim Robbins', u'Morgan Freeman', u'Bob Gunt...
1	9.2	The Godfather	R	Crime	175	[u'Marlon Brando', u'Al Pacino', u'James Caan']
2	9.1	The Godfather: Part II	R	Crime	200	[u'Al Pacino', u'Robert De Niro', u'Robert Duv...
3	9.0	The Dark Knight	PG-13	Action	152	[u'Christian Bale', u'Heath Ledger', u'Aaron E...
4	8.9	Pulp Fiction	R	Crime	154	[u'John Travolta', u'Uma Thurman', u'Samuel L....

In [146]: `movies.shape`

Out[146]: `(979, 6)`

In [148]: `type(`**`False`**`)`

Out[148]: `bool`

In [155]:
```
#filtering rows of the dataset using columns values
booleans = []
for length in movies.duration:
    if length >= 200:
        booleans.append(True)
    else:
            booleans.append(False)
```

In [156]: `booleans[0:5]`

Out[156]: `[False, False, True, False, False]`

In [158]: `len(booleans)`

Out[158]: `979`

In [159]:
```
#convert boolean list to pandas series
is_long = pd.Series(booleans)
```

```
In [160]: is_long.head()
```

```
Out[160]: 0    False
          1    False
          2     True
          3    False
          4    False
          dtype: bool
```

In [161]: `#passing series into the dataframes to see the final result`
`movies[is_long]`

Out[161]:

	star_rating	title	content_rating	genre	duration	actors_list
2	9.1	The Godfather: Part II	R	Crime	200	[u'Al Pacino', u'Robert De Niro', u'Robert Duv...
7	8.9	The Lord of the Rings: The Return of the King	PG-13	Adventure	201	[u'Elijah Wood', u'Viggo Mortensen', u'Ian McK...
17	8.7	Seven Samurai	UNRATED	Drama	207	[u'Toshir\xf4 Mifune', u'Takashi Shimura', u'K...
78	8.4	Once Upon a Time in America	R	Crime	229	[u'Robert De Niro', u'James Woods', u'Elizabet...
85	8.4	Lawrence of Arabia	PG	Adventure	216	[u"Peter O'Toole", u'Alec Guinness', u'Anthony...
142	8.3	Lagaan: Once Upon a Time in India	PG	Adventure	224	[u'Aamir Khan', u'Gracy Singh', u'Rachel Shell...
157	8.2	Gone with the Wind	G	Drama	238	[u'Clark Gable', u'Vivien Leigh', u'Thomas Mit...

	star_rating	title	content_rating	genre	duration	actors_list
204	8.1	Ben-Hur	G	Adventure	212	[u'Charlton Heston', u'Jack Hawkins', u'Stephe...
445	7.9	The Ten Commandments	APPROVED	Adventure	220	[u'Charlton Heston', u'Yul Brynner', u'Anne Ba...
476	7.8	Hamlet	PG-13	Drama	242	[u'Kenneth Branagh', u'Julie Christie', u'Dere...
630	7.7	Malcolm X	PG-13	Biography	202	[u'Denzel Washington', u'Angela Bassett', u'De...
767	7.6	It's a Mad, Mad, Mad, Mad World	APPROVED	Action	205	[u'Spencer Tracy', u'Milton Berle', u'Ethel Me...

In [162]:
```
#2nd method to filter rows
is_long = movies.duration>=200
is_long.head()
```

Out[162]:
```
0    False
1    False
2     True
3    False
4    False
Name: duration, dtype: bool
```

In [163]: *#3rd and the best way of filtering values*

```
movies[movies.duration>=200]
```

Out[163]:

	star_rating	title	content_rating	genre	duration	actors_list
2	9.1	The Godfather: Part II	R	Crime	200	[u'Al Pacino', u'Robert De Niro', u'Robert Duv...
7	8.9	The Lord of the Rings: The Return of the King	PG-13	Adventure	201	[u'Elijah Wood', u'Viggo Mortensen', u'Ian McK...
17	8.7	Seven Samurai	UNRATED	Drama	207	[u'Toshir\xf4 Mifune', u'Takashi Shimura', u'K...
78	8.4	Once Upon a Time in America	R	Crime	229	[u'Robert De Niro', u'James Woods', u'Elizabet...
85	8.4	Lawrence of Arabia	PG	Adventure	216	[u"Peter O'Toole", u'Alec Guinness', u'Anthony...
142	8.3	Lagaan: Once Upon a Time in India	PG	Adventure	224	[u'Aamir Khan', u'Gracy Singh', u'Rachel Shell...
157	8.2	Gone with the Wind	G	Drama	238	[u'Clark Gable', u'Vivien Leigh', u'Thomas Mit...

	star_rating	title	content_rating	genre	duration	actors_list
204	8.1	Ben-Hur	G	Adventure	212	[u'Charlton Heston', u'Jack Hawkins', u'Stephe...
445	7.9	The Ten Commandments	APPROVED	Adventure	220	[u'Charlton Heston', u'Yul Brynner', u'Anne Ba...
476	7.8	Hamlet	PG-13	Drama	242	[u'Kenneth Branagh', u'Julie Christie', u'Dere...
630	7.7	Malcolm X	PG-13	Biography	202	[u'Denzel Washington', u'Angela Bassett', u'De...
767	7.6	It's a Mad, Mad, Mad, Mad World	APPROVED	Action	205	[u'Spencer Tracy', u'Milton Berle', u'Ethel Me...

In [164]:
```
#filtering values for a specific column
movies[movies.duration>=200]['genre']
```

Out[164]:
```
2          Crime
7      Adventure
17         Drama
78         Crime
85     Adventure
142    Adventure
157        Drama
204    Adventure
445    Adventure
476        Drama
630    Biography
767       Action
Name: genre, dtype: object
```

In [165]: *#industry use method*
          movies.loc[movies.duration>=200,'genre']

Out[165]: 2   Crime
          7   Adventure
          17   Drama
          78   Crime
          85   Adventure
          142   Adventure
          157   Drama
          204   Adventure
          445   Adventure
          476   Drama
          630   Biography
          767   Action
          Name: genre, dtype: object

In [4]: **import pandas as pd**

In [6]: movies = pd.read_csv('https://raw.githubusercontent.com/justmarkham/pandas-vid
        eos/master/data/imdb_1000.csv')

In [7]: *#multiple filter using And Operator*

        movies[(movies.duration >= 200) & (movies.genre =='Drama')]

Out[7]:

	star_rating	title	content_rating	genre	duration	actors_list
17	8.7	Seven Samurai	UNRATED	Drama	207	[u'Toshir\xf4 Mifune', u'Takashi Shimura', u'K...
157	8.2	Gone with the Wind	G	Drama	238	[u'Clark Gable', u'Vivien Leigh', u'Thomas Mit...
476	7.8	Hamlet	PG-13	Drama	242	[u'Kenneth Branagh', u'Julie Christie', u'Dere...

In [9]:
```
#multiple filters using OR Operator
movies[(movies.duration>=200) | (movies.genre=='Drama')]
```

Out[9]:

	star_rating	title	content_rating	genre	duration	actors_list
2	9.1	The Godfather: Part II	R	Crime	200	[u'Al Pacino', u'Robert De Niro', u'Robert Duv...
5	8.9	12 Angry Men	NOT RATED	Drama	96	[u'Henry Fonda', u'Lee J. Cobb', u'Martin Bals...
7	8.9	The Lord of the Rings: The Return of the King	PG-13	Adventure	201	[u'Elijah Wood', u'Viggo Mortensen', u'Ian McK...
9	8.9	Fight Club	R	Drama	139	[u'Brad Pitt', u'Edward Norton', u'Helena Bonh...
13	8.8	Forrest Gump	PG-13	Drama	142	[u'Tom Hanks', u'Robin Wright', u'Gary Sinise']
16	8.7	One Flew Over the Cuckoo's Nest	R	Drama	133	[u'Jack Nicholson', u'Louise Fletcher', u'Mich...
17	8.7	Seven Samurai	UNRATED	Drama	207	[u'Toshir\xf4 Mifune', u'Takashi Shimura', u'K...
22	8.7	It's a Wonderful Life	APPROVED	Drama	130	[u'James Stewart', u'Donna Reed', u'Lionel Bar...
24	8.7	Se7en	R	Drama	127	[u'Morgan Freeman', u'Brad Pitt', u'Kevin Spac...

Panda

	star_rating	title	content_rating	genre	duration	actors_list
27	8.6	The Silence of the Lambs	R	Drama	118	[u'Jodie Foster', u'Anthony Hopkins', u'Lawren...
32	8.6	Casablanca	PG	Drama	102	[u'Humphrey Bogart', u'Ingrid Bergman', u'Paul...
33	8.6	Whiplash	R	Drama	107	[u'Miles Teller', u'J.K. Simmons', u'Melissa B...
41	8.5	Sunset Blvd.	NOT RATED	Drama	110	[u'William Holden', u'Gloria Swanson', u'Erich...
47	8.5	Taare Zameen Par	PG	Drama	165	[u'Darsheel Safary', u'Aamir Khan', u'Tanay Ch...
50	8.5	Cinema Paradiso	R	Drama	155	[u'Philippe Noiret', u'Enzo Cannavale', u'Anto...
51	8.5	Apocalypse Now	R	Drama	153	[u'Martin Sheen', u'Marlon Brando', u'Robert D...
53	8.5	The Prestige	PG-13	Drama	130	[u'Christian Bale', u'Hugh Jackman', u'Scarlet...
56	8.5	The Lives of Others	R	Drama	137	[u'Ulrich M\xfche', u'Martina Gedeck', u'Sebas...

	star_rating	title	content_rating	genre	duration	actors_list
58	8.5	Paths of Glory	APPROVED	Drama	88	[u'Kirk Douglas', u'Ralph Meeker', u'Adolphe M...
67	8.4	American Beauty	R	Drama	122	[u'Kevin Spacey', u'Annette Bening', u'Thora B...
72	8.4	Rang De Basanti	NOT RATED	Drama	157	[u'Aamir Khan', u'Soha Ali Khan', u'Siddharth']
73	8.4	Jodaeiye Nader az Simin	PG-13	Drama	123	[u'Peyman Moaadi', u'Leila Hatami', u'Sareh Ba...
74	8.4	Citizen Kane	APPROVED	Drama	119	[u'Orson Welles', u'Joseph Cotten', u'Dorothy ...
77	8.4	Oldeuboi	R	Drama	120	[u'Min-sik Choi', u'Ji-tae Yu', u'Hye-jeong Ka...
78	8.4	Once Upon a Time in America	R	Crime	229	[u'Robert De Niro', u'James Woods', u'Elizabet...
83	8.4	To Kill a Mockingbird	NOT RATED	Drama	129	[u'Gregory Peck', u'John Megna', u'Frank Overt...
84	8.4	Requiem for a Dream	R	Drama	102	[u'Ellen Burstyn', u'Jared Leto', u'Jennifer C...

	star_rating	title	content_rating	genre	duration	actors_list
85	8.4	Lawrence of Arabia	PG	Adventure	216	[u"Peter O'Toole", u'Alec Guinness', u'Anthony...
87	8.4	Bicycle Thieves	NOT RATED	Drama	93	[u'Lamberto Maggiorani', u'Enzo Staiola', u'Li...
89	8.4	Swades	NOT RATED	Drama	189	[u'Shah Rukh Khan', u'Gayatri Joshi', u'Kishor...
...	...	...	...	...	...	...
875	7.5	Rust and Bone	R	Drama	120	[u'Marion Cotillard', u'Matthias Schoenaerts',...
877	7.5	Legends of the Fall	R	Drama	133	[u'Brad Pitt', u'Anthony Hopkins', u'Aidan Qui...
879	7.5	The Constant Gardener	R	Drama	129	[u'Ralph Fiennes', u'Rachel Weisz', u'Hubert K...
886	7.5	Pi	R	Drama	84	[u'Sean Gullette', u'Mark Margolis', u'Ben She...
887	7.5	The Devil's Backbone	R	Drama	106	[u'Marisa Paredes', u'Eduardo Noriega', u'Fede...
889	7.5	Devil's Advocate	R	Drama	144	[u'Keanu Reeves', u'Al Pacino', u'Charlize The...

	star_rating	title	content_rating	genre	duration	actors_list
895	7.5	Biutiful	R	Drama	148	[u'Javier Bardem', u'Maricel \xc1lvarez', u'Ha...
897	7.5	Calvary	R	Drama	102	[u'Brendan Gleeson', u"Chris O'Dowd", u'Kelly ...
901	7.5	Babel	R	Drama	143	[u'Brad Pitt', u'Cate Blanchett', u'Gael Garc\...
904	7.5	Sweeney Todd: The Demon Barber of Fleet Street	R	Drama	116	[u'Johnny Depp', u'Helena Bonham Carter', u'Al...
910	7.5	2046	R	Drama	129	[u'Tony Chiu Wai Leung', u'Ziyi Zhang', u'Faye...
914	7.5	The Judge	R	Drama	141	[u'Robert Downey Jr.', u'Robert Duvall', u'Ver...
916	7.5	Up in the Air	R	Drama	109	[u'George Clooney', u'Vera Farmiga', u'Anna Ke...
917	7.5	Begin Again	R	Drama	104	[u'Keira Knightley', u'Mark Ruffalo', u'Adam L...
922	7.5	Mud	PG-13	Drama	130	[u'Matthew McConaughey', u'Tye Sheridan', u'Ja...

	star_rating	title	content_rating	genre	duration	actors_list
923	7.5	Across the Universe	PG-13	Drama	133	[u'Evan Rachel Wood', u'Jim Sturgess', u'Joe A...
925	7.5	Notes on a Scandal	R	Drama	92	[u'Cate Blanchett', u'Judi Dench', u'Andrew Si...
926	7.5	Inside Llewyn Davis	R	Drama	104	[u'Oscar Isaac', u'Carey Mulligan', u'John Goo...
939	7.4	Predestination	R	Drama	97	[u'Ethan Hawke', u'Sarah Snook', u'Noah Taylor']
941	7.4	A Bridge Too Far	PG	Drama	175	[u'Sean Connery', u"Ryan O'Neal", u'Michael Ca...
945	7.4	Take Shelter	R	Drama	120	[u'Michael Shannon', u'Jessica Chastain', u'Sh...
946	7.4	Far from Heaven	PG-13	Drama	107	[u'Julianne Moore', u'Dennis Quaid', u'Dennis ...
947	7.4	Eraserhead	UNRATED	Drama	89	[u'Jack Nance', u'Charlotte Stewart', u'Allen ...
951	7.4	Sleepy Hollow	R	Drama	105	[u'Johnny Depp', u'Christina Ricci', u'Miranda...

	star_rating	title	content_rating	genre	duration	actors_list
955	7.4	Zero Dark Thirty	R	Drama	157	[u'Jessica Chastain', u'Joel Edgerton', u'Chri...
958	7.4	My Sister's Keeper	PG-13	Drama	109	[u'Cameron Diaz', u'Abigail Breslin', u'Alec B...
968	7.4	The English Patient	R	Drama	162	[u'Ralph Fiennes', u'Juliette Binoche', u'Will...
970	7.4	Wonder Boys	R	Drama	107	[u'Michael Douglas', u'Tobey Maguire', u'Franc...
972	7.4	Blue Valentine	NC-17	Drama	112	[u'Ryan Gosling', u'Michelle Williams', u'John...
973	7.4	The Cider House Rules	PG-13	Drama	126	[u'Tobey Maguire', u'Charlize Theron', u'Micha...

287 rows × 6 columns

In [11]:
```python
# to get the boolean series using multiple filters
[(movies.duration>=200) & (movies.genre=='Drama')]
```

```
Out[11]:  [0        False
           1        False
           2        False
           3        False
           4        False
           5        False
           6        False
           7        False
           8        False
           9        False
           10       False
           11       False
           12       False
           13       False
           14       False
           15       False
           16       False
           17        True
           18       False
           19       False
           20       False
           21       False
           22       False
           23       False
           24       False
           25       False
           26       False
           27       False
           28       False
           29       False
                    ...
           949      False
           950      False
           951      False
           952      False
           953      False
           954      False
           955      False
           956      False
           957      False
           958      False
           959      False
           960      False
           961      False
           962      False
           963      False
           964      False
           965      False
           966      False
           967      False
           968      False
           969      False
           970      False
           971      False
           972      False
           973      False
           974      False
```

```
975    False
976    False
977    False
978    False
Length: 979, dtype: bool]
```

```
In [12]: #Multiple OR Conditions
         movies[(movies.duration>=200) | (movies.genre=='Drama')| (movies.genre=='Crim
         e')]
```

Out[12]:

	star_rating	title	content_rating	genre	duration	actors_list
0	9.3	The Shawshank Redemption	R	Crime	142	[u'Tim Robbins', u'Morgan Freeman', u'Bob Gunt...
1	9.2	The Godfather	R	Crime	175	[u'Marlon Brando', u'Al Pacino', u'James Caan']
2	9.1	The Godfather: Part II	R	Crime	200	[u'Al Pacino', u'Robert De Niro', u'Robert Duv...
4	8.9	Pulp Fiction	R	Crime	154	[u'John Travolta', u'Uma Thurman', u'Samuel L....
5	8.9	12 Angry Men	NOT RATED	Drama	96	[u'Henry Fonda', u'Lee J. Cobb', u'Martin Bals...
7	8.9	The Lord of the Rings: The Return of the King	PG-13	Adventure	201	[u'Elijah Wood', u'Viggo Mortensen', u'Ian McK...
9	8.9	Fight Club	R	Drama	139	[u'Brad Pitt', u'Edward Norton', u'Helena Bonh...
13	8.8	Forrest Gump	PG-13	Drama	142	[u'Tom Hanks', u'Robin Wright', u'Gary Sinise']
16	8.7	One Flew Over the Cuckoo's Nest	R	Drama	133	[u'Jack Nicholson', u'Louise Fletcher', u'Mich...

	star_rating	title	content_rating	genre	duration	actors_list
17	8.7	Seven Samurai	UNRATED	Drama	207	[u'Toshir\xf4 Mifune', u'Takashi Shimura', u'K...
21	8.7	City of God	R	Crime	130	[u'Alexandre Rodrigues', u'Matheus Nachtergael...
22	8.7	It's a Wonderful Life	APPROVED	Drama	130	[u'James Stewart', u'Donna Reed', u'Lionel Bar...
23	8.7	The Usual Suspects	R	Crime	106	[u'Kevin Spacey', u'Gabriel Byrne', u'Chazz Pa...
24	8.7	Se7en	R	Drama	127	[u'Morgan Freeman', u'Brad Pitt', u'Kevin Spac...
27	8.6	The Silence of the Lambs	R	Drama	118	[u'Jodie Foster', u'Anthony Hopkins', u'Lawren...
28	8.6	Leon: The Professional	R	Crime	110	[u'Jean Reno', u'Gary Oldman', u'Natalie Portm...
32	8.6	Casablanca	PG	Drama	102	[u'Humphrey Bogart', u'Ingrid Bergman', u'Paul...
33	8.6	Whiplash	R	Drama	107	[u'Miles Teller', u'J.K. Simmons', u'Melissa B...

	star_rating	title	content_rating	genre	duration	actors_list
34	8.6	American History X	R	Crime	119	[u'Edward Norton', u'Edward Furlong', u"Beverl...
40	8.5	The Green Mile	R	Crime	189	[u'Tom Hanks', u'Michael Clarke Duncan', u'Dav...
41	8.5	Sunset Blvd.	NOT RATED	Drama	110	[u'William Holden', u'Gloria Swanson', u'Erich...
47	8.5	Taare Zameen Par	PG	Drama	165	[u'Darsheel Safary', u'Aamir Khan', u'Tanay Ch...
49	8.5	The Departed	R	Crime	151	[u'Leonardo DiCaprio', u'Matt Damon', u'Jack N...
50	8.5	Cinema Paradiso	R	Drama	155	[u'Philippe Noiret', u'Enzo Cannavale', u'Anto...
51	8.5	Apocalypse Now	R	Drama	153	[u'Martin Sheen', u'Marlon Brando', u'Robert D...
53	8.5	The Prestige	PG-13	Drama	130	[u'Christian Bale', u'Hugh Jackman', u'Scarlet...
56	8.5	The Lives of Others	R	Drama	137	[u'Ulrich M\xfche', u'Martina Gedeck', u'Sebas...

	star_rating	title	content_rating	genre	duration	actors_list
58	8.5	Paths of Glory	APPROVED	Drama	88	[u'Kirk Douglas', u'Ralph Meeker', u'Adolphe M...
63	8.4	M	NOT RATED	Crime	99	[u'Peter Lorre', u'Ellen Widmann', u'Inge Land...
65	8.4	Witness for the Prosecution	APPROVED	Crime	116	[u'Tyrone Power', u'Marlene Dietrich', u'Charl...
...	...	...	...	...	...	...
904	7.5	Sweeney Todd: The Demon Barber of Fleet Street	R	Drama	116	[u'Johnny Depp', u'Helena Bonham Carter', u'Al...
907	7.5	The Proposition	R	Crime	104	[u'Ray Winstone', u'Guy Pearce', u'Emily Watson']
910	7.5	2046	R	Drama	129	[u'Tony Chiu Wai Leung', u'Ziyi Zhang', u'Faye...
914	7.5	The Judge	R	Drama	141	[u'Robert Downey Jr.', u'Robert Duvall', u'Ver...
915	7.5	Bad Education	NC-17	Crime	106	[u'Gael Garc\xeda Bernal', u'Fele Mart\xednez'...
916	7.5	Up in the Air	R	Drama	109	[u'George Clooney', u'Vera Farmiga', u'Anna Ke...

	star_rating	title	content_rating	genre	duration	actors_list
917	7.5	Begin Again	R	Drama	104	[u'Keira Knightley', u'Mark Ruffalo', u'Adam L...
920	7.5	Witness	R	Crime	112	[u'Harrison Ford', u'Kelly McGillis', u'Lukas ...
922	7.5	Mud	PG-13	Drama	130	[u'Matthew McConaughey', u'Tye Sheridan', u'Ja...
923	7.5	Across the Universe	PG-13	Drama	133	[u'Evan Rachel Wood', u'Jim Sturgess', u'Joe A...
924	7.5	Les Miserables	PG-13	Crime	134	[u'Liam Neeson', u'Geoffrey Rush', u'Uma Thurm...
925	7.5	Notes on a Scandal	R	Drama	92	[u'Cate Blanchett', u'Judi Dench', u'Andrew Si...
926	7.5	Inside Llewyn Davis	R	Drama	104	[u'Oscar Isaac', u'Carey Mulligan', u'John Goo...
927	7.5	Brick	R	Crime	110	[u'Joseph Gordon-Levitt', u'Lukas Haas', u'Emi...
931	7.4	Mean Streets	R	Crime	112	[u'Robert De Niro', u'Harvey Keitel', u'David ...
939	7.4	Predestination	R	Drama	97	[u'Ethan Hawke', u'Sarah Snook', u'Noah Taylor']

	star_rating	title	content_rating	genre	duration	actors_list
941	7.4	A Bridge Too Far	PG	Drama	175	[u'Sean Connery', u"Ryan O'Neal", u'Michael Ca...
945	7.4	Take Shelter	R	Drama	120	[u'Michael Shannon', u'Jessica Chastain', u'Sh...
946	7.4	Far from Heaven	PG-13	Drama	107	[u'Julianne Moore', u'Dennis Quaid', u'Dennis ...
947	7.4	Eraserhead	UNRATED	Drama	89	[u'Jack Nance', u'Charlotte Stewart', u'Allen ...
950	7.4	Bound	R	Crime	108	[u'Jennifer Tilly', u'Gina Gershon', u'Joe Pan...
951	7.4	Sleepy Hollow	R	Drama	105	[u'Johnny Depp', u'Christina Ricci', u'Miranda...
955	7.4	Zero Dark Thirty	R	Drama	157	[u'Jessica Chastain', u'Joel Edgerton', u'Chri...
958	7.4	My Sister's Keeper	PG-13	Drama	109	[u'Cameron Diaz', u'Abigail Breslin', u'Alec B...
968	7.4	The English Patient	R	Drama	162	[u'Ralph Fiennes', u'Juliette Binoche', u'Will...

	star_rating	title	content_rating	genre	duration	actors_list
969	7.4	Law Abiding Citizen	R	Crime	109	[u'Gerard Butler', u'Jamie Foxx', u'Leslie Bibb']
970	7.4	Wonder Boys	R	Drama	107	[u'Michael Douglas', u'Tobey Maguire', u'Franc...
972	7.4	Blue Valentine	NC-17	Drama	112	[u'Ryan Gosling', u'Michelle Williams', u'John...
973	7.4	The Cider House Rules	PG-13	Drama	126	[u'Tobey Maguire', u'Charlize Theron', u'Micha...
978	7.4	Wall Street	R	Crime	126	[u'Charlie Sheen', u'Michael Douglas', u'Tamar...

409 rows × 6 columns

In [13]:
```
#2nd way easy shortcut Using ISIN function
movies[movies.genre.isin(['Crime','Drama','Action'])]
```

Out[13]:

	star_rating	title	content_rating	genre	duration	actors_list
0	9.3	The Shawshank Redemption	R	Crime	142	[u'Tim Robbins', u'Morgan Freeman', u'Bob Gunt...
1	9.2	The Godfather	R	Crime	175	[u'Marlon Brando', u'Al Pacino', u'James Caan']
2	9.1	The Godfather: Part II	R	Crime	200	[u'Al Pacino', u'Robert De Niro', u'Robert Duv...
3	9.0	The Dark Knight	PG-13	Action	152	[u'Christian Bale', u'Heath Ledger', u'Aaron E...
4	8.9	Pulp Fiction	R	Crime	154	[u'John Travolta', u'Uma Thurman', u'Samuel L....
5	8.9	12 Angry Men	NOT RATED	Drama	96	[u'Henry Fonda', u'Lee J. Cobb', u'Martin Bals...
9	8.9	Fight Club	R	Drama	139	[u'Brad Pitt', u'Edward Norton', u'Helena Bonh...
11	8.8	Inception	PG-13	Action	148	[u'Leonardo DiCaprio', u'Joseph Gordon-Levitt'...
12	8.8	Star Wars: Episode V - The Empire Strikes Back	PG	Action	124	[u'Mark Hamill', u'Harrison Ford', u'Carrie Fi...
13	8.8	Forrest Gump	PG-13	Drama	142	[u'Tom Hanks', u'Robin Wright', u'Gary Sinise']
16	8.7	One Flew Over the Cuckoo's Nest	R	Drama	133	[u'Jack Nicholson', u'Louise Fletcher', u'Mich...
17	8.7	Seven Samurai	UNRATED	Drama	207	[u'Toshir\xf4 Mifune', u'Takashi Shimura', u'K...

Panda

	star_rating	title	content_rating	genre	duration	actors_list
19	8.7	Star Wars	PG	Action	121	[u'Mark Hamill', u'Harrison Ford', u'Carrie Fi...
20	8.7	The Matrix	R	Action	136	[u'Keanu Reeves', u'Laurence Fishburne', u'Car...
21	8.7	City of God	R	Crime	130	[u'Alexandre Rodrigues', u'Matheus Nachtergael...
22	8.7	It's a Wonderful Life	APPROVED	Drama	130	[u'James Stewart', u'Donna Reed', u'Lionel Bar...
23	8.7	The Usual Suspects	R	Crime	106	[u'Kevin Spacey', u'Gabriel Byrne', u'Chazz Pa...
24	8.7	Se7en	R	Drama	127	[u'Morgan Freeman', u'Brad Pitt', u'Kevin Spac...
27	8.6	The Silence of the Lambs	R	Drama	118	[u'Jodie Foster', u'Anthony Hopkins', u'Lawren...
28	8.6	Leon: The Professional	R	Crime	110	[u'Jean Reno', u'Gary Oldman', u'Natalie Portm...
32	8.6	Casablanca	PG	Drama	102	[u'Humphrey Bogart', u'Ingrid Bergman', u'Paul...
33	8.6	Whiplash	R	Drama	107	[u'Miles Teller', u'J.K. Simmons', u'Melissa B...
34	8.6	American History X	R	Crime	119	[u'Edward Norton', u'Edward Furlong', u"Beverl...

	star_rating	title	content_rating	genre	duration	actors_list
36	8.6	Saving Private Ryan	R	Action	169	[u'Tom Hanks', u'Matt Damon', u'Tom Sizemore']
37	8.6	Raiders of the Lost Ark	PG	Action	115	[u'Harrison Ford', u'Karen Allen', u'Paul Free...
40	8.5	The Green Mile	R	Crime	189	[u'Tom Hanks', u'Michael Clarke Duncan', u'Dav...
41	8.5	Sunset Blvd.	NOT RATED	Drama	110	[u'William Holden', u'Gloria Swanson', u'Erich...
43	8.5	The Dark Knight Rises	PG-13	Action	165	[u'Christian Bale', u'Tom Hardy', u'Anne Hatha...
44	8.5	Gladiator	R	Action	155	[u'Russell Crowe', u'Joaquin Phoenix', u'Conni...
45	8.5	Terminator 2: Judgment Day	R	Action	137	[u'Arnold Schwarzenegger', u'Linda Hamilton', ...
...	...	...	...	...	...	...
916	7.5	Up in the Air	R	Drama	109	[u'George Clooney', u'Vera Farmiga', u'Anna Ke...
917	7.5	Begin Again	R	Drama	104	[u'Keira Knightley', u'Mark Ruffalo', u'Adam L...
918	7.5	Running Scared	R	Action	122	[u'Paul Walker', u'Cameron Bright', u'Chazz Pa...
920	7.5	Witness	R	Crime	112	[u'Harrison Ford', u'Kelly McGillis', u'Lukas ...

	star_rating	title	content_rating	genre	duration	actors_list
922	7.5	Mud	PG-13	Drama	130	[u'Matthew McConaughey', u'Tye Sheridan', u'Ja...
923	7.5	Across the Universe	PG-13	Drama	133	[u'Evan Rachel Wood', u'Jim Sturgess', u'Joe A...
924	7.5	Les Miserables	PG-13	Crime	134	[u'Liam Neeson', u'Geoffrey Rush', u'Uma Thurm...
925	7.5	Notes on a Scandal	R	Drama	92	[u'Cate Blanchett', u'Judi Dench', u'Andrew Si...
926	7.5	Inside Llewyn Davis	R	Drama	104	[u'Oscar Isaac', u'Carey Mulligan', u'John Goo...
927	7.5	Brick	R	Crime	110	[u'Joseph Gordon-Levitt', u'Lukas Haas', u'Emi...
931	7.4	Mean Streets	R	Crime	112	[u'Robert De Niro', u'Harvey Keitel', u'David ...
939	7.4	Predestination	R	Drama	97	[u'Ethan Hawke', u'Sarah Snook', u'Noah Taylor']
941	7.4	A Bridge Too Far	PG	Drama	175	[u'Sean Connery', u"Ryan O'Neal", u'Michael Ca...
945	7.4	Take Shelter	R	Drama	120	[u'Michael Shannon', u'Jessica Chastain', u'Sh...
946	7.4	Far from Heaven	PG-13	Drama	107	[u'Julianne Moore', u'Dennis Quaid', u'Dennis ...

Panda

	star_rating	title	content_rating	genre	duration	actors_list
947	7.4	Eraserhead	UNRATED	Drama	89	[u'Jack Nance', u'Charlotte Stewart', u'Allen ...
950	7.4	Bound	R	Crime	108	[u'Jennifer Tilly', u'Gina Gershon', u'Joe Pan...
951	7.4	Sleepy Hollow	R	Drama	105	[u'Johnny Depp', u'Christina Ricci', u'Miranda...
954	7.4	X-Men	PG-13	Action	104	[u'Patrick Stewart', u'Hugh Jackman', u'Ian Mc...
955	7.4	Zero Dark Thirty	R	Drama	157	[u'Jessica Chastain', u'Joel Edgerton', u'Chri...
958	7.4	My Sister's Keeper	PG-13	Drama	109	[u'Cameron Diaz', u'Abigail Breslin', u'Alec B...
963	7.4	La Femme Nikita	R	Action	118	[u'Anne Parillaud', u'Marc Duret', u'Patrick F...
967	7.4	The Rock	R	Action	136	[u'Sean Connery', u'Nicolas Cage', u'Ed Harris']
968	7.4	The English Patient	R	Drama	162	[u'Ralph Fiennes', u'Juliette Binoche', u'Will...
969	7.4	Law Abiding Citizen	R	Crime	109	[u'Gerard Butler', u'Jamie Foxx', u'Leslie Bibb']
970	7.4	Wonder Boys	R	Drama	107	[u'Michael Douglas', u'Tobey Maguire', u'Franc...
972	7.4	Blue Valentine	NC-17	Drama	112	[u'Ryan Gosling', u'Michelle Williams', u'John...

	star_rating	title	content_rating	genre	duration	actors_list
973	7.4	The Cider House Rules	PG-13	Drama	126	[u'Tobey Maguire', u'Charlize Theron', u'Micha...
976	7.4	Master and Commander: The Far Side of the World	PG-13	Action	138	[u'Russell Crowe', u'Paul Bettany', u'Billy Bo...
978	7.4	Wall Street	R	Crime	126	[u'Charlie Sheen', u'Michael Douglas', u'Tamar...

538 rows × 6 columns

```
In [14]:  #Axis Parameters in PAndas
          #Axis = 0 means Rows AND Axis = 1 means columns
          #index means Rows and columns means Columns
          drinks  = pd.read_csv('https://raw.githubusercontent.com/justmarkham/pandas-vi
          deos/master/data/drinks.csv')
```

```
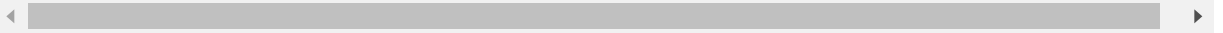In [15]:  drinks.head()
```

Out[15]:

	country	beer_servings	spirit_servings	wine_servings	total_litres_of_pure_alcoho
0	Afghanistan	0	0	0	0.0
1	Albania	89	132	54	4.9
2	Algeria	25	0	14	0.7
3	Andorra	245	138	312	12.4
4	Angola	217	57	45	5.9

In [16]: `#drop column continent from the dataset`
`drinks.drop('continent', axis=1).head()`

Out[16]:

	country	beer_servings	spirit_servings	wine_servings	total_litres_of_pure_alcoho
0	Afghanistan	0	0	0	0.0
1	Albania	89	132	54	4.9
2	Algeria	25	0	14	0.7
3	Andorra	245	138	312	12.4
4	Angola	217	57	45	5.9

In [17]: `#drop 2nd row from the dataset`
`drinks.drop(2,axis=0).head()`

Out[17]:

	country	beer_servings	spirit_servings	wine_servings	total_litres_of_pure_alcoho
0	Afghanistan	0	0	0	0.0
1	Albania	89	132	54	4.9
3	Andorra	245	138	312	12.4
4	Angola	217	57	45	5.9
5	Antigua & Barbuda	102	128	45	4.9

In [18]: `drinks.mean(axis=0)`

Out[18]:
```
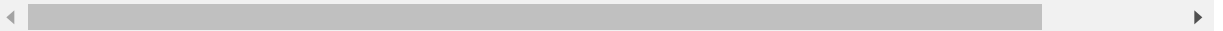beer_servings                    106.160622
spirit_servings                   80.994819
wine_servings                     49.450777
total_litres_of_pure_alcohol       4.717098
dtype: float64
```

In [19]: `drinks.mean(axis=1)`

```
Out[19]:  0        0.000
          1       69.975
          2        9.925
          3      176.850
          4       81.225
          5       69.975
          6      111.825
          7       53.700
          8      138.850
          9      138.675
          10      18.325
          11      88.825
          12      28.500
          13       0.000
          14      89.575
          15     142.850
          16     150.375
          17      97.950
          18      13.025
          19       5.850
          20      54.950
          21      65.400
          22      62.100
          23     103.300
          24       8.650
          25     146.825
          26      10.825
          27      23.575
          28      12.250
          29      55.000
                   ...
          163     79.650
          164     24.675
          165    101.300
          166    143.800
          167     14.250
          168      4.325
          169     91.100
          170     55.725
          171      1.525
          172     14.575
          173     15.775
          174     91.600
          175     18.825
          176     20.350
          177     31.050
          178     14.250
          179     15.575
          180    124.225
          181     39.700
          182    137.600
          183     12.175
          184    124.925
          185     94.150
          186     34.100
          187     12.725
          188    110.925
```

```
189      29.000
190       1.525
191      14.375
192      22.675
Length: 193, dtype: float64
```

In [20]:   *#another way for rows*
           drinks.mean(axis='index')

Out[20]: beer_servings   106.160622
          spirit_servings   80.994819
          wine_servings   49.450777
          total_litres_of_pure_alcohol   4.717098
          dtype: float64

In [21]: *#another way for columns*
drinks.mean(axis='columns')

```
Out[21]:  0        0.000
          1       69.975
          2        9.925
          3      176.850
          4       81.225
          5       69.975
          6      111.825
          7       53.700
          8      138.850
          9      138.675
          10      18.325
          11      88.825
          12      28.500
          13       0.000
          14      89.575
          15     142.850
          16     150.375
          17      97.950
          18      13.025
          19       5.850
          20      54.950
          21      65.400
          22      62.100
          23     103.300
          24       8.650
          25     146.825
          26      10.825
          27      23.575
          28      12.250
          29      55.000
                   ...
          163     79.650
          164     24.675
          165    101.300
          166    143.800
          167     14.250
          168      4.325
          169     91.100
          170     55.725
          171      1.525
          172     14.575
          173     15.775
          174     91.600
          175     18.825
          176     20.350
          177     31.050
          178     14.250
          179     15.575
          180    124.225
          181     39.700
          182    137.600
          183     12.175
          184    124.925
          185     94.150
          186     34.100
          187     12.725
          188    110.925
```

```
189     29.000
190      1.525
191     14.375
192     22.675
Length: 193, dtype: float64
```

In [24]: *#String Methods In Pandas*
```
orders=pd.read_table('https://raw.githubusercontent.com/justmarkham/pandas-vid
eos/master/data/chipotle.tsv')
orders.head()
```

Out[24]:

	order_id	quantity	item_name	choice_description	item_price
0	1	1	Chips and Fresh Tomato Salsa	NaN	$2.39
1	1	1	Izze	[Clementine]	$3.39
2	1	1	Nantucket Nectar	[Apple]	$3.39
3	1	1	Chips and Tomatillo-Green Chili Salsa	NaN	$2.39
4	2	2	Chicken Bowl	[Tomatillo-Red Chili Salsa (Hot), [Black Beans...	$16.98

In [25]:
```python
#convert to Uppercase
orders.item_name.str.upper()
```

```
Out[25]:  0                CHIPS AND FRESH TOMATO SALSA
          1                                        IZZE
          2                             NANTUCKET NECTAR
          3          CHIPS AND TOMATILLO-GREEN CHILI SALSA
          4                                 CHICKEN BOWL
          5                                 CHICKEN BOWL
          6                                SIDE OF CHIPS
          7                                STEAK BURRITO
          8                             STEAK SOFT TACOS
          9                                STEAK BURRITO
          10                           CHIPS AND GUACAMOLE
          11                          CHICKEN CRISPY TACOS
          12                            CHICKEN SOFT TACOS
          13                                 CHICKEN BOWL
          14                           CHIPS AND GUACAMOLE
          15         CHIPS AND TOMATILLO-GREEN CHILI SALSA
          16                              CHICKEN BURRITO
          17                              CHICKEN BURRITO
          18                                  CANNED SODA
          19                                 CHICKEN BOWL
          20                           CHIPS AND GUACAMOLE
          21                             BARBACOA BURRITO
          22                             NANTUCKET NECTAR
          23                              CHICKEN BURRITO
          24                                        IZZE
          25                CHIPS AND FRESH TOMATO SALSA
          26                                 CHICKEN BOWL
          27                             CARNITAS BURRITO
          28                                  CANNED SODA
          29                              CHICKEN BURRITO
                                 ...
          4592                            BARBACOA BURRITO
          4593                               CARNITAS BOWL
          4594                               BARBACOA BOWL
          4595                                CHICKEN BOWL
          4596                          CHIPS AND GUACAMOLE
          4597                            CANNED SOFT DRINK
          4598                                BOTTLED WATER
          4599                                CHICKEN BOWL
          4600                          CHIPS AND GUACAMOLE
          4601                            CANNED SOFT DRINK
          4602                            BARBACOA BURRITO
          4603                            BARBACOA BURRITO
          4604                                CHICKEN BOWL
          4605                          CHIPS AND GUACAMOLE
          4606                            CANNED SOFT DRINK
          4607                               STEAK BURRITO
          4608                               VEGGIE BURRITO
          4609                            CANNED SOFT DRINK
          4610                               STEAK BURRITO
          4611                               VEGGIE BURRITO
          4612                               CARNITAS BOWL
          4613                                       CHIPS
          4614                                BOTTLED WATER
          4615                           CHICKEN SOFT TACOS
          4616                          CHIPS AND GUACAMOLE
          4617                               STEAK BURRITO
```

```
4618                            STEAK BURRITO
4619                       CHICKEN SALAD BOWL
4620                       CHICKEN SALAD BOWL
4621                       CHICKEN SALAD BOWL
Name: item_name, Length: 4622, dtype: object
```

In [26]:
```
#Using Contains MEthod
#to filter dataset with a particular word in it
orders.item_name.str.contains('Chicken')
```

```
Out[26]:  0       False
          1       False
          2       False
          3       False
          4        True
          5        True
          6       False
          7       False
          8       False
          9       False
          10      False
          11       True
          12       True
          13       True
          14      False
          15      False
          16       True
          17       True
          18      False
          19       True
          20      False
          21      False
          22      False
          23       True
          24      False
          25      False
          26       True
          27      False
          28      False
          29       True
                   ...
          4592    False
          4593    False
          4594    False
          4595     True
          4596    False
          4597    False
          4598    False
          4599     True
          4600    False
          4601    False
          4602    False
          4603    False
          4604     True
          4605    False
          4606    False
          4607    False
          4608    False
          4609    False
          4610    False
          4611    False
          4612    False
          4613    False
          4614    False
          4615     True
          4616    False
          4617    False
```

```
4618     False
4619      True
4620      True
4621      True
Name: item_name, Length: 4622, dtype: bool
```

In [27]: `orders[orders.item_name.str.contains('Chicken')]`

Out[27]:

	order_id	quantity	item_name	choice_description	item_price
4	2	2	Chicken Bowl	[Tomatillo-Red Chili Salsa (Hot), [Black Beans...	$16.98
5	3	1	Chicken Bowl	[Fresh Tomato Salsa (Mild), [Rice, Cheese, Sou...	$10.98
11	6	1	Chicken Crispy Tacos	[Roasted Chili Corn Salsa, [Fajita Vegetables,...	$8.75
12	6	1	Chicken Soft Tacos	[Roasted Chili Corn Salsa, [Rice, Black Beans,...	$8.75
13	7	1	Chicken Bowl	[Fresh Tomato Salsa, [Fajita Vegetables, Rice,...	$11.25
16	8	1	Chicken Burrito	[Tomatillo-Green Chili Salsa (Medium), [Pinto ...	$8.49
17	9	1	Chicken Burrito	[Fresh Tomato Salsa (Mild), [Black Beans, Rice...	$8.49
19	10	1	Chicken Bowl	[Tomatillo Red Chili Salsa, [Fajita Vegetables...	$8.75
23	12	1	Chicken Burrito	[[Tomatillo-Green Chili Salsa (Medium), Tomati...	$10.98
26	13	1	Chicken Bowl	[Roasted Chili Corn Salsa (Medium), [Pinto Bea...	$8.49
29	15	1	Chicken Burrito	[Tomatillo-Green Chili Salsa (Medium), [Pinto ...	$8.49
35	18	1	Chicken Soft Tacos	[Roasted Chili Corn Salsa, Rice]	$8.75
36	18	1	Chicken Soft Tacos	[Roasted Chili Corn Salsa, [Cheese, Lettuce]]	$8.75
42	20	1	Chicken Bowl	[Roasted Chili Corn Salsa, [Rice, Black Beans,...	$11.25
44	20	1	Chicken Salad Bowl	[Fresh Tomato Salsa, [Fajita Vegetables, Pinto...	$8.75
45	21	1	Chicken Burrito	[Tomatillo-Red Chili Salsa (Hot), [Black Beans...	$10.98
52	24	1	Chicken Burrito	[Roasted Chili Corn Salsa (Medium), [Black Bea...	$10.98
63	28	1	Chicken Burrito	[Fresh Tomato Salsa, [Rice, Black Beans, Cheese]]	$8.75
68	30	1	Chicken Burrito	[Tomatillo-Red Chili Salsa (Hot), [Black Beans...	$10.98

Panda

	order_id	quantity	item_name	choice_description	item_price
73	33	1	Chicken Burrito	[Tomatillo Red Chili Salsa, [Rice, Black Beans...	$8.75
75	34	1	Chicken Soft Tacos	[Tomatillo Red Chili Salsa, [Rice, Cheese, Sou...	$8.75
76	34	1	Chicken Bowl	[Fresh Tomato Salsa, [Rice, Black Beans, Pinto...	$8.75
78	34	1	Chicken Bowl	[Fresh Tomato Salsa, [Rice, Black Beans, Chees...	$8.75
79	35	1	Chicken Soft Tacos	[Roasted Chili Corn Salsa, [Rice, Cheese, Lett...	$11.25
82	36	1	Chicken Burrito	[Fresh Tomato Salsa, [Rice, Black Beans, Chees...	$8.75
83	37	1	Chicken Burrito	[Tomatillo Green Chili Salsa, [Rice, Black Bea...	$8.75
98	43	1	Chicken Burrito	[Tomatillo Red Chili Salsa, [Rice, Black Beans...	$8.75
99	44	1	Chicken Bowl	[Tomatillo Red Chili Salsa, [Rice, Fajita Vege...	$8.75
110	49	1	Chicken Bowl	[Tomatillo Red Chili Salsa, [Rice, Black Beans...	$8.75
114	50	1	Chicken Burrito	[Tomatillo-Green Chili Salsa (Medium), [Pinto ...	$8.49
...	...	...	...	...	...
4537	1804	1	Chicken Bowl	[Fresh Tomato Salsa, [Rice, Black Beans, Chees...	$8.75
4540	1805	1	Chicken Bowl	[Tomatillo Green Chili Salsa, [Fajita Vegetabl...	$11.25
4543	1806	1	Chicken Burrito	[Fresh Tomato Salsa, [Fajita Vegetables, Rice]]	$8.75
4550	1809	1	Chicken Soft Tacos	[Fresh Tomato Salsa, [Fajita Vegetables, Chees...	$8.75
4553	1810	1	Chicken Bowl	[Roasted Chili Corn Salsa, [Black Beans, Sour ...	$11.25
4555	1811	1	Chicken Bowl	[Roasted Chili Corn Salsa, [Fajita Vegetables,...	$8.75
4556	1811	1	Chicken Burrito	[Tomatillo Green Chili Salsa, [Fajita Vegetabl...	$11.25

	order_id	quantity	item_name	choice_description	item_price
4558	1812	1	Chicken Burrito	[Fresh Tomato Salsa, [Rice, Black Beans, Chees...	$8.75
4559	1812	1	Chicken Burrito	[Tomatillo Red Chili Salsa, [Rice, Cheese, Gua...	$11.25
4561	1813	2	Chicken Salad Bowl	[Fresh Tomato Salsa, [Fajita Vegetables, Pinto...	$17.50
4564	1815	1	Chicken Bowl	[Fresh Tomato Salsa, [Fajita Vegetables, Rice,...	$11.25
4566	1816	1	Chicken Burrito	[Roasted Chili Corn Salsa, [Pinto Beans, Chees...	$8.75
4569	1817	1	Chicken Burrito	[Fresh Tomato Salsa, [Fajita Vegetables, Rice]]	$8.75
4574	1819	1	Chicken Bowl	[Roasted Chili Corn Salsa, [Rice, Cheese, Lett...	$8.75
4576	1820	1	Chicken Bowl	[Fresh Tomato Salsa, [Rice, Cheese, Sour Cream...	$11.25
4580	1822	1	Chicken Salad Bowl	[Fresh Tomato Salsa, [Black Beans, Cheese, Gua...	$11.25
4581	1822	1	Chicken Bowl	[Tomatillo Red Chili Salsa, [Rice, Black Beans...	$8.75
4583	1823	1	Chicken Bowl	[Tomatillo Green Chili Salsa, [Rice, Black Bea...	$8.75
4586	1824	1	Chicken Bowl	[Fresh Tomato Salsa, [Rice, Black Beans, Chees...	$11.25
4587	1824	1	Chicken Bowl	[Fresh Tomato Salsa, [Rice, Black Beans, Chees...	$11.25
4589	1825	1	Chicken Bowl	[Fresh Tomato Salsa, [Rice, Black Beans, Sour ...	$11.25
4590	1825	1	Chicken Bowl	[Roasted Chili Corn Salsa, [Rice, Black Beans,...	$11.25
4591	1825	1	Chicken Bowl	[Tomatillo Red Chili Salsa, [Rice, Black Beans...	$8.75
4595	1826	1	Chicken Bowl	[Tomatillo Green Chili Salsa, [Rice, Black Bea...	$8.75
4599	1827	1	Chicken Bowl	[Roasted Chili Corn Salsa, [Cheese, Lettuce]]	$8.75
4604	1828	1	Chicken Bowl	[Fresh Tomato Salsa, [Rice, Black Beans, Chees...	$8.75

	order_id	quantity	item_name	choice_description	item_price
4615	1832	1	Chicken Soft Tacos	[Fresh Tomato Salsa, [Rice, Cheese, Sour Cream]]	$8.75
4619	1834	1	Chicken Salad Bowl	[Fresh Tomato Salsa, [Fajita Vegetables, Pinto...	$11.25
4620	1834	1	Chicken Salad Bowl	[Fresh Tomato Salsa, [Fajita Vegetables, Lettu...	$8.75
4621	1834	1	Chicken Salad Bowl	[Fresh Tomato Salsa, [Fajita Vegetables, Pinto...	$8.75

1560 rows × 5 columns

In [28]: #*Remove Brackets or symbols*
         orders.choice_description.str.replace('[','')

```
Out[28]:  0                                              NaN
          1                                      Clementine]
          2                                           Apple]
          3                                              NaN
          4     Tomatillo-Red Chili Salsa (Hot), Black Beans, ...
          5     Fresh Tomato Salsa (Mild), Rice, Cheese, Sour ...
          6                                              NaN
          7     Tomatillo Red Chili Salsa, Fajita Vegetables, ...
          8     Tomatillo Green Chili Salsa, Pinto Beans, Chee...
          9     Fresh Tomato Salsa, Rice, Black Beans, Pinto B...
          10                                             NaN
          11    Roasted Chili Corn Salsa, Fajita Vegetables, R...
          12    Roasted Chili Corn Salsa, Rice, Black Beans, C...
          13    Fresh Tomato Salsa, Fajita Vegetables, Rice, C...
          14                                             NaN
          15                                             NaN
          16    Tomatillo-Green Chili Salsa (Medium), Pinto Be...
          17    Fresh Tomato Salsa (Mild), Black Beans, Rice, ...
          18                                          Sprite]
          19    Tomatillo Red Chili Salsa, Fajita Vegetables, ...
          20                                             NaN
          21    Fresh Tomato Salsa (Mild), Tomatillo-Green Chi...
          22                              Pomegranate Cherry]
          23    Tomatillo-Green Chili Salsa (Medium), Tomatill...
          24                                      Grapefruit]
          25                                             NaN
          26    Roasted Chili Corn Salsa (Medium), Pinto Beans...
          27    Tomatillo-Green Chili Salsa (Medium), Roasted ...
          28                                      Dr. Pepper]
          29    Tomatillo-Green Chili Salsa (Medium), Pinto Be...
                                           ...
          4592  Tomatillo Red Chili Salsa, Rice, Fajita Vegeta...
          4593  Roasted Chili Corn Salsa, Rice, Sour Cream, Ch...
          4594  Roasted Chili Corn Salsa, Pinto Beans, Sour Cr...
          4595   Tomatillo Green Chili Salsa, Rice, Black Beans]]
          4596                                             NaN
          4597                                         Nestea]
          4598                                             NaN
          4599      Roasted Chili Corn Salsa, Cheese, Lettuce]]
          4600                                             NaN
          4601                                      Diet Coke]
          4602                 Tomatillo Green Chili Salsa]
          4603                 Tomatillo Green Chili Salsa]
          4604  Fresh Tomato Salsa, Rice, Black Beans, Cheese,...
          4605                                             NaN
          4606                                           Coke]
          4607  Tomatillo Green Chili Salsa, Rice, Cheese, Sou...
          4608  Tomatillo Red Chili Salsa, Fajita Vegetables, ...
          4609                                         Sprite]
          4610  Fresh Tomato Salsa, Rice, Sour Cream, Cheese, ...
          4611  Tomatillo Green Chili Salsa, Rice, Fajita Vege...
          4612  Fresh Tomato Salsa, Fajita Vegetables, Rice, B...
          4613                                             NaN
          4614                                             NaN
          4615      Fresh Tomato Salsa, Rice, Cheese, Sour Cream]]
          4616                                             NaN
          4617  Fresh Tomato Salsa, Rice, Black Beans, Sour Cr...
```

```
4618      Fresh Tomato Salsa, Rice, Sour Cream, Cheese, ...
4619      Fresh Tomato Salsa, Fajita Vegetables, Pinto B...
4620       Fresh Tomato Salsa, Fajita Vegetables, Lettuce]]
4621      Fresh Tomato Salsa, Fajita Vegetables, Pinto B...
Name: choice_description, Length: 4622, dtype: object
```

In [29]:
```
orders.choice_description.str.replace('[','').str.replace(']','')
```

```
Out[29]: 0                                                      NaN
         1                                               Clementine
         2                                                    Apple
         3                                                      NaN
         4        Tomatillo-Red Chili Salsa (Hot), Black Beans, ...
         5        Fresh Tomato Salsa (Mild), Rice, Cheese, Sour ...
         6                                                      NaN
         7        Tomatillo Red Chili Salsa, Fajita Vegetables, ...
         8        Tomatillo Green Chili Salsa, Pinto Beans, Chee...
         9        Fresh Tomato Salsa, Rice, Black Beans, Pinto B...
         10                                                     NaN
         11       Roasted Chili Corn Salsa, Fajita Vegetables, R...
         12       Roasted Chili Corn Salsa, Rice, Black Beans, C...
         13       Fresh Tomato Salsa, Fajita Vegetables, Rice, C...
         14                                                     NaN
         15                                                     NaN
         16       Tomatillo-Green Chili Salsa (Medium), Pinto Be...
         17       Fresh Tomato Salsa (Mild), Black Beans, Rice, ...
         18                                                  Sprite
         19       Tomatillo Red Chili Salsa, Fajita Vegetables, ...
         20                                                     NaN
         21       Fresh Tomato Salsa (Mild), Tomatillo-Green Chi...
         22                                       Pomegranate Cherry
         23       Tomatillo-Green Chili Salsa (Medium), Tomatill...
         24                                               Grapefruit
         25                                                     NaN
         26       Roasted Chili Corn Salsa (Medium), Pinto Beans...
         27       Tomatillo-Green Chili Salsa (Medium), Roasted ...
         28                                               Dr. Pepper
         29       Tomatillo-Green Chili Salsa (Medium), Pinto Be...
                                          ...
         4592     Tomatillo Red Chili Salsa, Rice, Fajita Vegeta...
         4593     Roasted Chili Corn Salsa, Rice, Sour Cream, Ch...
         4594     Roasted Chili Corn Salsa, Pinto Beans, Sour Cr...
         4595         Tomatillo Green Chili Salsa, Rice, Black Beans
         4596                                                   NaN
         4597                                                Nestea
         4598                                                   NaN
         4599        Roasted Chili Corn Salsa, Cheese, Lettuce
         4600                                                   NaN
         4601                                             Diet Coke
         4602                          Tomatillo Green Chili Salsa
         4603                          Tomatillo Green Chili Salsa
         4604     Fresh Tomato Salsa, Rice, Black Beans, Cheese,...
         4605                                                   NaN
         4606                                                  Coke
         4607     Tomatillo Green Chili Salsa, Rice, Cheese, Sou...
         4608     Tomatillo Red Chili Salsa, Fajita Vegetables, ...
         4609                                                Sprite
         4610     Fresh Tomato Salsa, Rice, Sour Cream, Cheese, ...
         4611     Tomatillo Green Chili Salsa, Rice, Fajita Vege...
         4612     Fresh Tomato Salsa, Fajita Vegetables, Rice, B...
         4613                                                   NaN
         4614                                                   NaN
         4615         Fresh Tomato Salsa, Rice, Cheese, Sour Cream
         4616                                                   NaN
         4617     Fresh Tomato Salsa, Rice, Black Beans, Sour Cr...
```

```
4618      Fresh Tomato Salsa, Rice, Sour Cream, Cheese, ...
4619      Fresh Tomato Salsa, Fajita Vegetables, Pinto B...
4620        Fresh Tomato Salsa, Fajita Vegetables, Lettuce
4621      Fresh Tomato Salsa, Fajita Vegetables, Pinto B...
Name: choice_description, Length: 4622, dtype: object
```

In [30]:
```python
# USing Regular Expressions for removing Characters
orders.choice_description.str.replace('[\[\]]','')
```

```
Out[30]:  0                                                NaN
          1                                         Clementine
          2                                              Apple
          3                                                NaN
          4      Tomatillo-Red Chili Salsa (Hot), Black Beans, ...
          5      Fresh Tomato Salsa (Mild), Rice, Cheese, Sour ...
          6                                                NaN
          7      Tomatillo Red Chili Salsa, Fajita Vegetables, ...
          8      Tomatillo Green Chili Salsa, Pinto Beans, Chee...
          9      Fresh Tomato Salsa, Rice, Black Beans, Pinto B...
          10                                               NaN
          11     Roasted Chili Corn Salsa, Fajita Vegetables, R...
          12     Roasted Chili Corn Salsa, Rice, Black Beans, C...
          13     Fresh Tomato Salsa, Fajita Vegetables, Rice, C...
          14                                               NaN
          15                                               NaN
          16     Tomatillo-Green Chili Salsa (Medium), Pinto Be...
          17     Fresh Tomato Salsa (Mild), Black Beans, Rice, ...
          18                                            Sprite
          19     Tomatillo Red Chili Salsa, Fajita Vegetables, ...
          20                                               NaN
          21     Fresh Tomato Salsa (Mild), Tomatillo-Green Chi...
          22                                Pomegranate Cherry
          23     Tomatillo-Green Chili Salsa (Medium), Tomatill...
          24                                        Grapefruit
          25                                               NaN
          26     Roasted Chili Corn Salsa (Medium), Pinto Beans...
          27     Tomatillo-Green Chili Salsa (Medium), Roasted ...
          28                                        Dr. Pepper
          29     Tomatillo-Green Chili Salsa (Medium), Pinto Be...
                                              ...
          4592   Tomatillo Red Chili Salsa, Rice, Fajita Vegeta...
          4593   Roasted Chili Corn Salsa, Rice, Sour Cream, Ch...
          4594   Roasted Chili Corn Salsa, Pinto Beans, Sour Cr...
          4595      Tomatillo Green Chili Salsa, Rice, Black Beans
          4596                                             NaN
          4597                                          Nestea
          4598                                             NaN
          4599       Roasted Chili Corn Salsa, Cheese, Lettuce
          4600                                             NaN
          4601                                       Diet Coke
          4602                      Tomatillo Green Chili Salsa
          4603                      Tomatillo Green Chili Salsa
          4604   Fresh Tomato Salsa, Rice, Black Beans, Cheese,...
          4605                                             NaN
          4606                                            Coke
          4607   Tomatillo Green Chili Salsa, Rice, Cheese, Sou...
          4608   Tomatillo Red Chili Salsa, Fajita Vegetables, ...
          4609                                          Sprite
          4610   Fresh Tomato Salsa, Rice, Sour Cream, Cheese, ...
          4611   Tomatillo Green Chili Salsa, Rice, Fajita Vege...
          4612   Fresh Tomato Salsa, Fajita Vegetables, Rice, B...
          4613                                             NaN
          4614                                             NaN
          4615        Fresh Tomato Salsa, Rice, Cheese, Sour Cream
          4616                                             NaN
          4617   Fresh Tomato Salsa, Rice, Black Beans, Sour Cr...
```

```
    4618        Fresh Tomato Salsa, Rice, Sour Cream, Cheese, ...
    4619        Fresh Tomato Salsa, Fajita Vegetables, Pinto B...
    4620         Fresh Tomato Salsa, Fajita Vegetables, Lettuce
    4621        Fresh Tomato Salsa, Fajita Vegetables, Pinto B...
    Name: choice_description, Length: 4622, dtype: object
```

In [33]: `drinks  = pd.read_csv('https://raw.githubusercontent.com/justmarkham/pandas-videos/master/data/drinks.csv')`
`drinks.dtypes`

Out[33]:
```
country                        object
beer_servings                   int64
spirit_servings                 int64
wine_servings                   int64
total_litres_of_pure_alcohol    float64
continent                      object
dtype: object
```

In [37]: `#changing the datatypes of panda series`
`drinks['beer_servings'] = drinks.beer_servings.astype(float)`
`drinks.dtypes`

Out[37]:
```
country                        object
beer_servings                  float64
spirit_servings                 int64
wine_servings                   int64
total_litres_of_pure_alcohol    float64
continent                      object
dtype: object
```

In [38]: `#removing $ sign and calcualting mean`
`orders.item_price.str.replace('$','').astype(float).mean()`

Out[38]: `7.464335785374397`

In [41]: `#converting String COlumns into Integer`
`orders.item_name.str.contains('Chicken').astype(int).mean()`

Out[41]: `0.33751622674167026`

In [42]: `#GroupBy methos is use to group attributes as ONE and get results of a Particular Category`
`drinks.groupby('continent').beer_servings.mean()`

Out[42]:
```
continent
Africa           61.471698
Asia             37.045455
Europe          193.777778
North America   145.434783
Oceania          89.687500
South America   175.083333
Name: beer_servings, dtype: float64
```

In [43]: *#Aggregate Function used for performing multiple functions at same time*
drinks.groupby('continent').beer_servings.agg(['count','max', 'min','mean'])

Out[43]:

continent	count	max	min	mean
Africa	53	376.0	0.0	61.471698
Asia	44	247.0	0.0	37.045455
Europe	45	361.0	0.0	193.777778
North America	23	285.0	1.0	145.434783
Oceania	16	306.0	0.0	89.687500
South America	12	333.0	93.0	175.083333

In [44]: **%matplotlib** inline

In [46]: drinks.groupby('continent').mean().plot(kind = 'bar')

Out[46]: <matplotlib.axes._subplots.AxesSubplot at 0x1cdb7ddae80>

In [52]: *#Handle Missing Values in Dataset*
         ufo.tail()

Out[52]:

	City	Colors Reported	Shape Reported	State	Time
18236	Grant Park	NaN	TRIANGLE	IL	12/31/2000 23:00
18237	Spirit Lake	NaN	DISK	IA	12/31/2000 23:00
18238	Eagle River	NaN	NaN	WI	12/31/2000 23:45
18239	Eagle River	RED	LIGHT	WI	12/31/2000 23:45
18240	Ybor	NaN	OVAL	FL	12/31/2000 23:59

In [59]: *#first find the missing values using ISNULL or NOTNULL functions*
         ufo.isnull().tail()

Out[59]:

	City	Colors Reported	Shape Reported	State	Time
18236	False	True	False	False	False
18237	False	True	False	False	False
18238	False	True	True	False	False
18239	False	False	False	False	False
18240	False	True	False	False	False

In [60]: ufo.notnull().tail()

Out[60]:

	City	Colors Reported	Shape Reported	State	Time
18236	True	False	True	True	True
18237	True	False	True	True	True
18238	True	False	False	True	True
18239	True	True	True	True	True
18240	True	False	True	True	True

In [61]: ```
#finding the number of missing values in Each Column
#it means that column City has 25 NAN values
#it is counted as sum of True and False Values where Value of True=1 and FAlse
=0
ufo.isnull().sum()
```
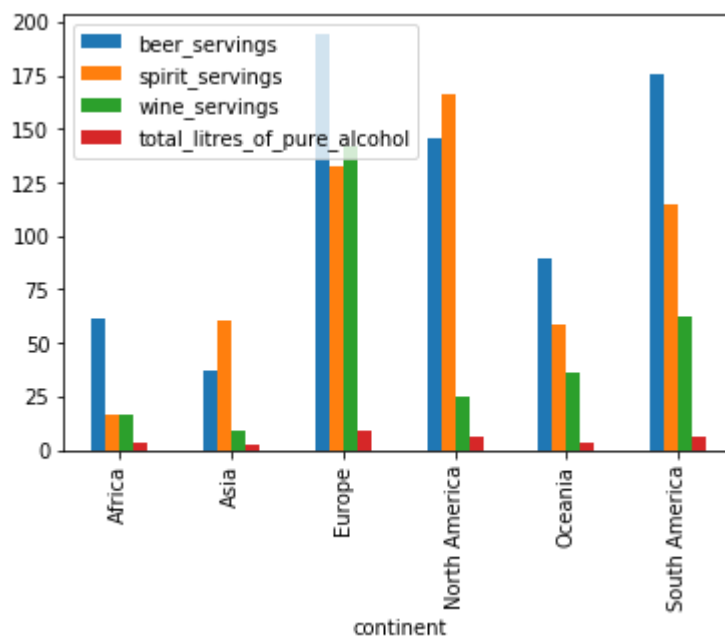
Out[61]: ```
City                25
Colors Reported  15359
Shape Reported    2644
State                0
Time                 0
dtype: int64
```

In [63]: ```
#Things To do with MIssing Values
#1. Drop a Row if any of its values are missing
ufo.dropna(how = 'any').shape
```

Out[63]: (2486, 5)

In [64]: ```
#Drop a Row if ALL of its values are missing
ufo.dropna(how = 'all').shape
```

Out[64]: (18241, 5)

In [69]: ```
#dropping columns and its subset using ANY or HOW
ufo.dropna(subset=['City','Shape Reported'], how = 'any').shape
```

Out[69]: (15576, 5)

```
In [77]: ufo['Shape Reported'].value_counts(dropna=False)
```

```
Out[77]: LIGHT          2803
         NaN            2644
         DISK           2122
         TRIANGLE       1889
         OTHER          1402
         CIRCLE         1365
         SPHERE         1054
         FIREBALL       1039
         OVAL            845
         CIGAR           617
         FORMATION       434
         VARIOUS         333
         RECTANGLE       303
         CYLINDER        294
         CHEVRON         248
         DIAMOND         234
         EGG             197
         FLASH           188
         TEARDROP        119
         CONE             60
         CROSS            36
         DELTA             7
         ROUND             2
         CRESCENT          2
         PYRAMID           1
         HEXAGON           1
         FLARE             1
         DOME              1
         Name: Shape Reported, dtype: int64
```

```
In [78]: #filling the missing values in  a particular COlumn or Series
         ufo['Shape Reported'].fillna(value='VARIOUS', inplace=True)
```

In [79]: `ufo['Shape Reported'].value_counts(dropna=**False**)`

```
Out[79]: VARIOUS       2977
         LIGHT         2803
         DISK          2122
         TRIANGLE      1889
         OTHER         1402
         CIRCLE        1365
         SPHERE        1054
         FIREBALL      1039
         OVAL           845
         CIGAR          617
         FORMATION      434
         RECTANGLE      303
         CYLINDER       294
         CHEVRON        248
         DIAMOND        234
         EGG            197
         FLASH          188
         TEARDROP       119
         CONE            60
         CROSS           36
         DELTA            7
         CRESCENT         2
         ROUND            2
         FLARE            1
         HEXAGON          1
         PYRAMID          1
         DOME             1
         Name: Shape Reported, dtype: int64
```