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Conditional Filtering

Imports

```
In [1]: import numpy as np
import pandas as pd
```

```
In [2]: df = pd.read_csv('tips.csv')
```

```
In [5]: df.head()
```

```
Out[5]:
```

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
0	16.99	1.01	Female	No	Sun	Dinner	2	8.49	Christy Cunningham	356032
1	10.34	1.66	Male	No	Sun	Dinner	3	3.45	Douglas Tucker	447807
2	21.01	3.50	Male	No	Sun	Dinner	3	7.00	Travis Walters	601181
3	23.68	3.31	Male	No	Sun	Dinner	2	11.84	Nathaniel Harris	467613
4	24.59	3.61	Female	No	Sun	Dinner	4	6.15	Tonya Carter	483273

Conditions

```
In [12]: # df['total_bill'] > 30
```

```
In [10]: bool_series = df['total_bill'] > 30
```

```
In [11]: df[bool_series]
```

Out[11]:

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
11	35.26	5.00	Female	No	Sun	Dinner	4	8.82	Diane Macias	4576
23	39.42	7.58	Male	No	Sat	Dinner	4	9.86	Lance Peterson	3546
39	31.27	5.00	Male	No	Sat	Dinner	3	10.42	Mr. Brandon Berry	6016
44	30.40	5.60	Male	No	Sun	Dinner	4	7.60	Todd Cooper	
47	32.40	6.00	Male	No	Sun	Dinner	4	8.10	James Barnes	3556
52	34.81	5.20	Female	No	Sun	Dinner	4	8.70	Emily Daniel	4296
56	38.01	3.00	Male	Yes	Sat	Dinner	4	9.50	James Christensen DDS	3466
59	48.27	6.73	Male	No	Sat	Dinner	4	12.07	Brian Ortiz	6596
83	32.68	5.00	Male	Yes	Thur	Lunch	2	16.34	Daniel Murphy	5356
85	34.83	5.17	Female	No	Thur	Lunch	4	8.71	Shawna Cook	6016
95	40.17	4.73	Male	Yes	Fri	Dinner	4	10.04	Aaron Bentley	1866
102	44.30	2.50	Female	Yes	Sat	Dinner	3	14.77	Heather Cohen	3766
112	38.07	4.00	Male	No	Sun	Dinner	3	12.69	Jeff Lopez	3576
141	34.30	6.70	Male	No	Thur	Lunch	6	5.72	Steven Carlson	3526
142	41.19	5.00	Male	No	Thur	Lunch	5	8.24	Eric Andrews	4356
156	48.17	5.00	Male	No	Sun	Dinner	6	8.03	Ryan Gonzales	3526
167	31.71	4.50	Male	No	Sun	Dinner	4	7.93	Michael Lawson	3566
170	50.81	10.00	Male	Yes	Sat	Dinner	3	16.94	Gregory Clark	5476
173	31.85	3.18	Male	Yes	Sun	Dinner	2	15.92	Scott Perez	3576
175	32.90	3.11	Male	Yes	Sun	Dinner	2	16.45	Nathan Reynolds	3766
179	34.63	3.55	Male	Yes	Sun	Dinner	2	17.32	Brian Bailey	3466
180	34.65	3.68	Male	Yes	Sun	Dinner	4	8.66	James Hebert DDS	
182	45.35	3.50	Male	Yes	Sun	Dinner	3	15.12	Jose Parsons	4116
184	40.55	3.00	Male	Yes	Sun	Dinner	2	20.27	Stephen Cox	3546
187	30.46	2.00	Male	Yes	Sun	Dinner	5	6.09	David Barrett	4796

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
197	43.11	5.00	Female	Yes	Thur	Lunch	4	10.78	Brooke Soto	554
207	38.73	3.00	Male	Yes	Sat	Dinner	4	9.68	Ricky Ramirez	34
210	30.06	2.00	Male	Yes	Sat	Dinner	3	10.02	Shawn Mendoza	30
212	48.33	9.00	Male	No	Sat	Dinner	4	12.08	Alex Williamson	
219	30.14	3.09	Female	Yes	Sat	Dinner	4	7.54	Shelby House	
237	32.83	1.17	Male	Yes	Sat	Dinner	2	16.42	Thomas Brown	428
238	35.83	4.67	Female	No	Sat	Dinner	3	11.94	Kimberly Crane	

```
In [13]: df[df['total_bill']>30]
```

Out[13]:

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
11	35.26	5.00	Female	No	Sun	Dinner	4	8.82	Diane Macias	4576
23	39.42	7.58	Male	No	Sat	Dinner	4	9.86	Lance Peterson	3546
39	31.27	5.00	Male	No	Sat	Dinner	3	10.42	Mr. Brandon Berry	6016
44	30.40	5.60	Male	No	Sun	Dinner	4	7.60	Todd Cooper	
47	32.40	6.00	Male	No	Sun	Dinner	4	8.10	James Barnes	3556
52	34.81	5.20	Female	No	Sun	Dinner	4	8.70	Emily Daniel	4296
56	38.01	3.00	Male	Yes	Sat	Dinner	4	9.50	James Christensen DDS	3466
59	48.27	6.73	Male	No	Sat	Dinner	4	12.07	Brian Ortiz	6596
83	32.68	5.00	Male	Yes	Thur	Lunch	2	16.34	Daniel Murphy	5356
85	34.83	5.17	Female	No	Thur	Lunch	4	8.71	Shawna Cook	6016
95	40.17	4.73	Male	Yes	Fri	Dinner	4	10.04	Aaron Bentley	1866
102	44.30	2.50	Female	Yes	Sat	Dinner	3	14.77	Heather Cohen	3766
112	38.07	4.00	Male	No	Sun	Dinner	3	12.69	Jeff Lopez	3576
141	34.30	6.70	Male	No	Thur	Lunch	6	5.72	Steven Carlson	3526
142	41.19	5.00	Male	No	Thur	Lunch	5	8.24	Eric Andrews	4356
156	48.17	5.00	Male	No	Sun	Dinner	6	8.03	Ryan Gonzales	3526
167	31.71	4.50	Male	No	Sun	Dinner	4	7.93	Michael Lawson	3566
170	50.81	10.00	Male	Yes	Sat	Dinner	3	16.94	Gregory Clark	5476
173	31.85	3.18	Male	Yes	Sun	Dinner	2	15.92	Scott Perez	3576
175	32.90	3.11	Male	Yes	Sun	Dinner	2	16.45	Nathan Reynolds	3766
179	34.63	3.55	Male	Yes	Sun	Dinner	2	17.32	Brian Bailey	3466
180	34.65	3.68	Male	Yes	Sun	Dinner	4	8.66	James Hebert DDS	
182	45.35	3.50	Male	Yes	Sun	Dinner	3	15.12	Jose Parsons	4116
184	40.55	3.00	Male	Yes	Sun	Dinner	2	20.27	Stephen Cox	3546
187	30.46	2.00	Male	Yes	Sun	Dinner	5	6.09	David Barrett	4796

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
197	43.11	5.00	Female	Yes	Thur	Lunch	4	10.78	Brooke Soto	554
207	38.73	3.00	Male	Yes	Sat	Dinner	4	9.68	Ricky Ramirez	34
210	30.06	2.00	Male	Yes	Sat	Dinner	3	10.02	Shawn Mendoza	3
212	48.33	9.00	Male	No	Sat	Dinner	4	12.08	Alex Williamson	
219	30.14	3.09	Female	Yes	Sat	Dinner	4	7.54	Shelby House	
237	32.83	1.17	Male	Yes	Sat	Dinner	2	16.42	Thomas Brown	428
238	35.83	4.67	Female	No	Sat	Dinner	3	11.94	Kimberly Crane	

```
In [14]: df[df['sex'] == 'Male']
```


Out[14]:

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	C
1	10.34	1.66	Male	No	Sun	Dinner	3	3.45	Douglas Tucker	4478071
2	21.01	3.50	Male	No	Sun	Dinner	3	7.00	Travis Walters	6011812
3	23.68	3.31	Male	No	Sun	Dinner	2	11.84	Nathaniel Harris	4676137
5	25.29	4.71	Male	No	Sun	Dinner	4	6.32	Erik Smith	213140
6	8.77	2.00	Male	No	Sun	Dinner	2	4.38	Kristopher Johnson	2223727
7	26.88	3.12	Male	No	Sun	Dinner	4	6.72	Robert Buck	3514785
8	15.04	1.96	Male	No	Sun	Dinner	2	7.52	Joseph Mcdonald	3522866
9	14.78	3.23	Male	No	Sun	Dinner	2	7.39	Jerome Abbott	3532124
10	10.27	1.71	Male	No	Sun	Dinner	2	5.14	William Riley	566
12	15.42	1.57	Male	No	Sun	Dinner	2	7.71	Chad Harrington	577
13	18.43	3.00	Male	No	Sun	Dinner	4	4.61	Joshua Jones	6011163
15	21.58	3.92	Male	No	Sun	Dinner	2	10.79	Matthew Reilly	180073
17	16.29	3.71	Male	No	Sun	Dinner	3	5.43	John Pittman	6521340
19	20.65	3.35	Male	No	Sat	Dinner	3	6.88	Timothy Oneal	6568069
20	17.92	4.08	Male	No	Sat	Dinner	2	8.96	Thomas Rice	4403296
23	39.42	7.58	Male	No	Sat	Dinner	4	9.86	Lance Peterson	3542584
24	19.82	3.18	Male	No	Sat	Dinner	2	9.91	Christopher Ross	36739
25	17.81	2.34	Male	No	Sat	Dinner	4	4.45	Robert Perkins	30502
26	13.37	2.00	Male	No	Sat	Dinner	2	6.68	Kyle Avery	6531339
27	12.69	2.00	Male	No	Sat	Dinner	2	6.34	Patrick Barber	30155
28	21.70	4.30	Male	No	Sat	Dinner	2	10.85	David Collier	5529694
30	9.55	1.45	Male	No	Sat	Dinner	2	4.78	Grant Hall	30196
31	18.35	2.50	Male	No	Sat	Dinner	4	4.59	Danny Santiago	630
34	17.78	3.27	Male	No	Sat	Dinner	2	8.89	Jacob Castillo	3551492
35	24.06	3.60	Male	No	Sat	Dinner	3	8.02	Joseph Mullins	5519770
36	16.31	2.00	Male	No	Sat	Dinner	3	5.44	William Ford	3527691

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	credit_card
38	18.69	2.31	Male	No	Sat	Dinner	3	6.23	Brandon Bradley	4427601
39	31.27	5.00	Male	No	Sat	Dinner	3	10.42	Mr. Brandon Berry	6011525
40	16.04	2.24	Male	No	Sat	Dinner	3	5.35	Adam Edwards	3544447
41	17.46	2.54	Male	No	Sun	Dinner	2	8.73	David Boyer	3536678
...
195	7.56	1.44	Male	No	Thur	Lunch	2	3.78	Michael White	4865390
196	10.34	2.00	Male	Yes	Thur	Lunch	2	5.17	Eric Martin	30442
199	13.51	2.00	Male	Yes	Thur	Lunch	2	6.76	Joseph Murphy MD	6547218
200	18.71	4.00	Male	Yes	Thur	Lunch	3	6.24	Jason Conrad	4581
204	20.53	4.00	Male	Yes	Thur	Lunch	4	5.13	Scott Kim	3570611
206	26.59	3.41	Male	Yes	Sat	Dinner	3	8.86	Daniel Owens	38971
207	38.73	3.00	Male	Yes	Sat	Dinner	4	9.68	Ricky Ramirez	347817
208	24.27	2.03	Male	Yes	Sat	Dinner	2	12.14	Jason Carter	4268942
210	30.06	2.00	Male	Yes	Sat	Dinner	3	10.02	Shawn Mendoza	30184
211	25.89	5.16	Male	Yes	Sat	Dinner	4	6.47	Christopher Li	6011962
212	48.33	9.00	Male	No	Sat	Dinner	4	12.08	Alex Williamson	676
216	28.15	3.00	Male	Yes	Sat	Dinner	5	5.63	Shawn Barnett PhD	4590
217	11.59	1.50	Male	Yes	Sat	Dinner	2	5.80	Gary Orr	30324
218	7.74	1.44	Male	Yes	Sat	Dinner	2	3.87	Nicholas Archer	340517
220	12.16	2.20	Male	Yes	Fri	Lunch	2	6.08	Ricky Johnson	213109
222	8.58	1.92	Male	Yes	Fri	Lunch	1	8.58	Jason Lawrence	3505302
224	13.42	1.58	Male	Yes	Fri	Lunch	2	6.71	Ronald Vaughn DVM	341503
227	20.45	3.00	Male	No	Sat	Dinner	4	5.11	Robert Bradley	213141
228	13.28	2.72	Male	No	Sat	Dinner	2	6.64	Glenn Jones	502
230	24.01	2.00	Male	Yes	Sat	Dinner	4	6.00	Michael Osborne	4258

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	C
231	15.69	3.00	Male	Yes	Sat	Dinner	3	5.23	Jason Parks	4812
232	11.61	3.39	Male	No	Sat	Dinner	2	5.80	James Taylor	6011482
233	10.77	1.47	Male	No	Sat	Dinner	2	5.38	Paul Novak	6011698
234	15.53	3.00	Male	Yes	Sat	Dinner	2	7.76	Tracy Douglas	4097938
235	10.07	1.25	Male	No	Sat	Dinner	2	5.04	Sean Gonzalez	3534021
236	12.60	1.00	Male	Yes	Sat	Dinner	2	6.30	Matthew Myers	3543676
237	32.83	1.17	Male	Yes	Sat	Dinner	2	16.42	Thomas Brown	4284722
239	29.03	5.92	Male	No	Sat	Dinner	3	9.68	Michael Avila	5296068
241	22.67	2.00	Male	Yes	Sat	Dinner	2	11.34	Keith Wong	6011891
242	17.82	1.75	Male	No	Sat	Dinner	2	8.91	Dennis Dixon	4375

157 rows × 11 columns

Multiple Conditions

Recall the steps:

- Get the conditions
- Wrap each condition in parenthesis
- Use the | or & operator, depending if you want an
 - OR | (either condition is True)
 - AND & (both conditions must be True)
- You can also use the ~ operator as a NOT operation

```
In [33]: df[(df['total_bill'] > 30) & (df['sex']=='Male')]
```

Out[33]:

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
23	39.42	7.58	Male	No	Sat	Dinner	4	9.86	Lance Peterson	354256
39	31.27	5.00	Male	No	Sat	Dinner	3	10.42	Mr. Brandon Berry	601156
44	30.40	5.60	Male	No	Sun	Dinner	4	7.60	Todd Cooper	50
47	32.40	6.00	Male	No	Sun	Dinner	4	8.10	James Barnes	355200
56	38.01	3.00	Male	Yes	Sat	Dinner	4	9.50	James Christensen DDS	34976
59	48.27	6.73	Male	No	Sat	Dinner	4	12.07	Brian Ortiz	659646
83	32.68	5.00	Male	Yes	Thur	Lunch	2	16.34	Daniel Murphy	535617
95	40.17	4.73	Male	Yes	Fri	Dinner	4	10.04	Aaron Bentley	18006
112	38.07	4.00	Male	No	Sun	Dinner	3	12.69	Jeff Lopez	357286
141	34.30	6.70	Male	No	Thur	Lunch	6	5.72	Steven Carlson	352657
142	41.19	5.00	Male	No	Thur	Lunch	5	8.24	Eric Andrews	435656
156	48.17	5.00	Male	No	Sun	Dinner	6	8.03	Ryan Gonzales	352316
167	31.71	4.50	Male	No	Sun	Dinner	4	7.93	Michael Lawson	356626
170	50.81	10.00	Male	Yes	Sat	Dinner	3	16.94	Gregory Clark	547386
173	31.85	3.18	Male	Yes	Sun	Dinner	2	15.92	Scott Perez	357717
175	32.90	3.11	Male	Yes	Sun	Dinner	2	16.45	Nathan Reynolds	37036
179	34.63	3.55	Male	Yes	Sun	Dinner	2	17.32	Brian Bailey	34666
180	34.65	3.68	Male	Yes	Sun	Dinner	4	8.66	James Hebert DDS	67
182	45.35	3.50	Male	Yes	Sun	Dinner	3	15.12	Jose Parsons	411226
184	40.55	3.00	Male	Yes	Sun	Dinner	2	20.27	Stephen Cox	354776
187	30.46	2.00	Male	Yes	Sun	Dinner	5	6.09	David Barrett	479286
207	38.73	3.00	Male	Yes	Sat	Dinner	4	9.68	Ricky Ramirez	34787
210	30.06	2.00	Male	Yes	Sat	Dinner	3	10.02	Shawn Mendoza	3016
212	48.33	9.00	Male	No	Sat	Dinner	4	12.08	Alex Williamson	67

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
237	32.83	1.17	Male	Yes	Sat	Dinner	2	16.42	Thomas Brown	428472

```
In [34]: df[(df['total_bill'] > 30) & ~(df['sex']=='Male')]
```

Out[34]:

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	C
11	35.26	5.00	Female	No	Sun	Dinner	4	8.82	Diane Macias	4577817
52	34.81	5.20	Female	No	Sun	Dinner	4	8.70	Emily Daniel	4291280
85	34.83	5.17	Female	No	Thur	Lunch	4	8.71	Shawna Cook	6011787
102	44.30	2.50	Female	Yes	Sat	Dinner	3	14.77	Heather Cohen	379771
197	43.11	5.00	Female	Yes	Thur	Lunch	4	10.78	Brooke Soto	5544902
219	30.14	3.09	Female	Yes	Sat	Dinner	4	7.54	Shelby House	502
238	35.83	4.67	Female	No	Sat	Dinner	3	11.94	Kimberly Crane	676

```
In [35]: df[(df['total_bill'] > 30) & (df['sex']!='Male')]
```

Out[35]:

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	C
11	35.26	5.00	Female	No	Sun	Dinner	4	8.82	Diane Macias	4577817
52	34.81	5.20	Female	No	Sun	Dinner	4	8.70	Emily Daniel	4291280
85	34.83	5.17	Female	No	Thur	Lunch	4	8.71	Shawna Cook	6011787
102	44.30	2.50	Female	Yes	Sat	Dinner	3	14.77	Heather Cohen	379771
197	43.11	5.00	Female	Yes	Thur	Lunch	4	10.78	Brooke Soto	5544902
219	30.14	3.09	Female	Yes	Sat	Dinner	4	7.54	Shelby House	502
238	35.83	4.67	Female	No	Sat	Dinner	3	11.94	Kimberly Crane	676

```
In [30]: # The Weekend  
df[(df['day'] == 'Sun') | (df['day'] == 'Sat')]
```

Out[30]:

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
0	16.99	1.01	Female	No	Sun	Dinner	2	8.49	Christy Cunningham	3560
1	10.34	1.66	Male	No	Sun	Dinner	3	3.45	Douglas Tucker	4478
2	21.01	3.50	Male	No	Sun	Dinner	3	7.00	Travis Walters	6011
3	23.68	3.31	Male	No	Sun	Dinner	2	11.84	Nathaniel Harris	4676
4	24.59	3.61	Female	No	Sun	Dinner	4	6.15	Tonya Carter	4832
5	25.29	4.71	Male	No	Sun	Dinner	4	6.32	Erik Smith	213
6	8.77	2.00	Male	No	Sun	Dinner	2	4.38	Kristopher Johnson	2223
7	26.88	3.12	Male	No	Sun	Dinner	4	6.72	Robert Buck	3514
8	15.04	1.96	Male	No	Sun	Dinner	2	7.52	Joseph Mcdonald	3522
9	14.78	3.23	Male	No	Sun	Dinner	2	7.39	Jerome Abbott	3532
10	10.27	1.71	Male	No	Sun	Dinner	2	5.14	William Riley	
11	35.26	5.00	Female	No	Sun	Dinner	4	8.82	Diane Macias	4577
12	15.42	1.57	Male	No	Sun	Dinner	2	7.71	Chad Harrington	
13	18.43	3.00	Male	No	Sun	Dinner	4	4.61	Joshua Jones	6011
14	14.83	3.02	Female	No	Sun	Dinner	2	7.42	Vanessa Jones	30
15	21.58	3.92	Male	No	Sun	Dinner	2	10.79	Matthew Reilly	180
16	10.33	1.67	Female	No	Sun	Dinner	3	3.44	Elizabeth Foster	4240
17	16.29	3.71	Male	No	Sun	Dinner	3	5.43	John Pittman	6521
18	16.97	3.50	Female	No	Sun	Dinner	3	5.66	Laura Martinez	30
19	20.65	3.35	Male	No	Sat	Dinner	3	6.88	Timothy Oneal	6568
20	17.92	4.08	Male	No	Sat	Dinner	2	8.96	Thomas Rice	4403
21	20.29	2.75	Female	No	Sat	Dinner	2	10.14	Natalie Gardner	5448
22	15.77	2.23	Female	No	Sat	Dinner	2	7.88	Ashley Shelton	3524
23	39.42	7.58	Male	No	Sat	Dinner	4	9.86	Lance Peterson	3542
24	19.82	3.18	Male	No	Sat	Dinner	2	9.91	Christopher Ross	36

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
25	17.81	2.34	Male	No	Sat	Dinner	4	4.45	Robert Perkins	301
26	13.37	2.00	Male	No	Sat	Dinner	2	6.68	Kyle Avery	6531
27	12.69	2.00	Male	No	Sat	Dinner	2	6.34	Patrick Barber	30
28	21.70	4.30	Male	No	Sat	Dinner	2	10.85	David Collier	5529
29	19.65	3.00	Female	No	Sat	Dinner	2	9.82	Melinda Murphy	5489
...
206	26.59	3.41	Male	Yes	Sat	Dinner	3	8.86	Daniel Owens	38
207	38.73	3.00	Male	Yes	Sat	Dinner	4	9.68	Ricky Ramirez	347
208	24.27	2.03	Male	Yes	Sat	Dinner	2	12.14	Jason Carter	4268
209	12.76	2.23	Female	Yes	Sat	Dinner	2	6.38	Sarah Cunningham	341
210	30.06	2.00	Male	Yes	Sat	Dinner	3	10.02	Shawn Mendoza	30
211	25.89	5.16	Male	Yes	Sat	Dinner	4	6.47	Christopher Li	6011
212	48.33	9.00	Male	No	Sat	Dinner	4	12.08	Alex Williamson	1
213	13.27	2.50	Female	Yes	Sat	Dinner	2	6.64	Robin Andersen	1
214	28.17	6.50	Female	Yes	Sat	Dinner	3	9.39	Marissa Jackson	4922
215	12.90	1.10	Female	Yes	Sat	Dinner	2	6.45	Jessica Owen	4
216	28.15	3.00	Male	Yes	Sat	Dinner	5	5.63	Shawn Barnett PhD	4
217	11.59	1.50	Male	Yes	Sat	Dinner	2	5.80	Gary Orr	30
218	7.74	1.44	Male	Yes	Sat	Dinner	2	3.87	Nicholas Archer	340
219	30.14	3.09	Female	Yes	Sat	Dinner	4	7.54	Shelby House	1
227	20.45	3.00	Male	No	Sat	Dinner	4	5.11	Robert Bradley	213
228	13.28	2.72	Male	No	Sat	Dinner	2	6.64	Glenn Jones	1
229	22.12	2.88	Female	Yes	Sat	Dinner	2	11.06	Jennifer Russell	4
230	24.01	2.00	Male	Yes	Sat	Dinner	4	6.00	Michael Osborne	4
231	15.69	3.00	Male	Yes	Sat	Dinner	3	5.23	Jason Parks	4
232	11.61	3.39	Male	No	Sat	Dinner	2	5.80	James Taylor	6011
233	10.77	1.47	Male	No	Sat	Dinner	2	5.38	Paul Novak	6011

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
234	15.53	3.00	Male	Yes	Sat	Dinner	2	7.76	Tracy Douglas	4097
235	10.07	1.25	Male	No	Sat	Dinner	2	5.04	Sean Gonzalez	3534
236	12.60	1.00	Male	Yes	Sat	Dinner	2	6.30	Matthew Myers	3543
237	32.83	1.17	Male	Yes	Sat	Dinner	2	16.42	Thomas Brown	4284
238	35.83	4.67	Female	No	Sat	Dinner	3	11.94	Kimberly Crane	
239	29.03	5.92	Male	No	Sat	Dinner	3	9.68	Michael Avila	5296
240	27.18	2.00	Female	Yes	Sat	Dinner	2	13.59	Monica Sanders	3506
241	22.67	2.00	Male	Yes	Sat	Dinner	2	11.34	Keith Wong	6011
242	17.82	1.75	Male	No	Sat	Dinner	2	8.91	Dennis Dixon	4

163 rows × 11 columns

Conditional Operator isin()

We can use .isin() operator to filter by a list of options.

```
In [36]: options = ['Sat', 'Sun']  
df['day'].isin(options)
```

```
Out[36]: 0      True
         1      True
         2      True
         3      True
         4      True
         5      True
         6      True
         7      True
         8      True
         9      True
        10      True
        11      True
        12      True
        13      True
        14      True
        15      True
        16      True
        17      True
        18      True
        19      True
        20      True
        21      True
        22      True
        23      True
        24      True
        25      True
        26      True
        27      True
        28      True
        29      True
        ...
        214     True
        215     True
        216     True
        217     True
        218     True
        219     True
        220    False
        221    False
        222    False
        223    False
        224    False
        225    False
        226    False
        227     True
        228     True
        229     True
        230     True
        231     True
        232     True
        233     True
        234     True
        235     True
        236     True
        237     True
        238     True
        239     True
        240     True
        241     True
        242     True
```

```
243     False  
Name: day, Length: 244, dtype: bool
```

```
In [37]: df[df['day'].isin(['Sat', 'Sun'])]
```

Out[37]:

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
0	16.99	1.01	Female	No	Sun	Dinner	2	8.49	Christy Cunningham	3560
1	10.34	1.66	Male	No	Sun	Dinner	3	3.45	Douglas Tucker	4478
2	21.01	3.50	Male	No	Sun	Dinner	3	7.00	Travis Walters	6011
3	23.68	3.31	Male	No	Sun	Dinner	2	11.84	Nathaniel Harris	4676
4	24.59	3.61	Female	No	Sun	Dinner	4	6.15	Tonya Carter	4832
5	25.29	4.71	Male	No	Sun	Dinner	4	6.32	Erik Smith	213
6	8.77	2.00	Male	No	Sun	Dinner	2	4.38	Kristopher Johnson	2223
7	26.88	3.12	Male	No	Sun	Dinner	4	6.72	Robert Buck	3514
8	15.04	1.96	Male	No	Sun	Dinner	2	7.52	Joseph Mcdonald	3522
9	14.78	3.23	Male	No	Sun	Dinner	2	7.39	Jerome Abbott	3532
10	10.27	1.71	Male	No	Sun	Dinner	2	5.14	William Riley	
11	35.26	5.00	Female	No	Sun	Dinner	4	8.82	Diane Macias	4577
12	15.42	1.57	Male	No	Sun	Dinner	2	7.71	Chad Harrington	
13	18.43	3.00	Male	No	Sun	Dinner	4	4.61	Joshua Jones	6011
14	14.83	3.02	Female	No	Sun	Dinner	2	7.42	Vanessa Jones	30
15	21.58	3.92	Male	No	Sun	Dinner	2	10.79	Matthew Reilly	180
16	10.33	1.67	Female	No	Sun	Dinner	3	3.44	Elizabeth Foster	4240
17	16.29	3.71	Male	No	Sun	Dinner	3	5.43	John Pittman	6521
18	16.97	3.50	Female	No	Sun	Dinner	3	5.66	Laura Martinez	30
19	20.65	3.35	Male	No	Sat	Dinner	3	6.88	Timothy Oneal	6568
20	17.92	4.08	Male	No	Sat	Dinner	2	8.96	Thomas Rice	4403
21	20.29	2.75	Female	No	Sat	Dinner	2	10.14	Natalie Gardner	5448
22	15.77	2.23	Female	No	Sat	Dinner	2	7.88	Ashley Shelton	3524
23	39.42	7.58	Male	No	Sat	Dinner	4	9.86	Lance Peterson	3542
24	19.82	3.18	Male	No	Sat	Dinner	2	9.91	Christopher Ross	36

	total_bill	tip	sex	smoker	day	time	size	price_per_person	Payer Name	
25	17.81	2.34	Male	No	Sat	Dinner	4	4.45	Robert Perkins	301
26	13.37	2.00	Male	No	Sat	Dinner	2	6.68	Kyle Avery	6531
27	12.69	2.00	Male	No	Sat	Dinner	2	6.34	Patrick Barber	30
28	21.70	4.30	Male	No	Sat	Dinner	2	10.85	David Collier	5529
29	19.65	3.00	Female	No	Sat	Dinner	2	9.82	Melinda Murphy	5489
...
206	26.59	3.41	Male	Yes	Sat	Dinner	3	8.86	Daniel Owens	38
207	38.73	3.00	Male	Yes	Sat	Dinner	4	9.68	Ricky Ramirez	347
208	24.27	2.03	Male	Yes	Sat	Dinner	2	12.14	Jason Carter	4268
209	12.76	2.23	Female	Yes	Sat	Dinner	2	6.38	Sarah Cunningham	341
210	30.06	2.00	Male	Yes	Sat	Dinner	3	10.02	Shawn Mendoza	30
211	25.89	5.16	Male	Yes	Sat	Dinner	4	6.47	Christopher Li	6011
212	48.33	9.00	Male	No	Sat	Dinner	4	12.08	Alex Williamson	1
213	13.27	2.50	Female	Yes	Sat	Dinner	2	6.64	Robin Andersen	1
214	28.17	6.50	Female	Yes	Sat	Dinner	3	9.39	Marissa Jackson	4922
215	12.90	1.10	Female	Yes	Sat	Dinner	2	6.45	Jessica Owen	4
216	28.15	3.00	Male	Yes	Sat	Dinner	5	5.63	Shawn Barnett PhD	4
217	11.59	1.50	Male	Yes	Sat	Dinner	2	5.80	Gary Orr	30
218	7.74	1.44	Male	Yes	Sat	Dinner	2	3.87	Nicholas Archer	340
219	30.14	3.09	Female	Yes	Sat	Dinner	4	7.54	Shelby House	1
227	20.45	3.00	Male	No	Sat	Dinner	4	5.11	Robert Bradley	213
228	13.28	2.72	Male	No	Sat	Dinner	2	6.64	Glenn Jones	1
229	22.12	2.88	Female	Yes	Sat	Dinner	2	11.06	Jennifer Russell	4
230	24.01	2.00	Male	Yes	Sat	Dinner	4	6.00	Michael Osborne	4
231	15.69	3.00	Male	Yes	Sat	Dinner	3	5.23	Jason Parks	4
232	11.61	3.39	Male	No	Sat	Dinner	2	5.80	James Taylor	6011
233	10.77	1.47	Male	No	Sat	Dinner	2	5.38	Paul Novak	6011

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240	27.18	2.00	Female	Yes	Sat	Dinner	2	13.59	Monica Sanders	3506
241	22.67	2.00	Male	Yes	Sat	Dinner	2	11.34	Keith Wong	6011
242	17.82	1.75	Male	No	Sat	Dinner	2	8.91	Dennis Dixon	4

163 rows × 11 columns

In []: