

```
import pandas as pd

car=pd.read_csv('https://github.com/YBI-Foundation/Dataset/raw/main/MPG.csv')
```

car

	mpg	cylinders	displacement	horsepower	weight	acceleration	model_year
0	18.0	8	307.0	130.0	3504	12.0	70
1	15.0	8	350.0	165.0	3693	11.5	70
2	18.0	8	318.0	150.0	3436	11.0	70
3	16.0	8	304.0	150.0	3433	12.0	70
4	17.0	8	302.0	140.0	3449	10.5	70
...	...	...	...	...	...	...	...
393	27.0	4	140.0	86.0	2790	15.6	82
394	44.0	4	97.0	52.0	2130	24.6	82
395	32.0	4	135.0	84.0	2295	11.6	82
396	28.0	4	120.0	79.0	2625	18.6	82
397	31.0	4	119.0	82.0	2720	19.4	82

398 rows × 9 columns

```
car.head()
```

	mpg	cylinders	displacement	horsepower	weight	acceleration	model_year	o
<b>0</b>	18.0	8	307.0	130.0	3504	12.0	70	
<b>1</b>	15.0	8	350.0	165.0	3693	11.5	70	
<b>2</b>	18.0	8	318.0	150.0	3436	11.0	70	
<b>3</b>	16.0	8	301.0	159.0	3440	10.5	70	

`car.tail()`

	mpg	cylinders	displacement	horsepower	weight	acceleration	model_year
<b>393</b>	27.0	4	140.0	86.0	2790	15.6	82
<b>394</b>	44.0	4	97.0	52.0	2130	24.6	82
<b>395</b>	32.0	4	135.0	84.0	2295	11.6	82

`car.tail(10)`

`car.head(5)`

	mpg	cylinders	displacement	horsepower	weight	acceleration	model_year	origin
0	18.0	8	307.0	130.0	3504	12.0	70	usa
1	15.0	8	350.0	165.0	3693	11.5	70	usa

```
pd.options.display.max_rows=500
```

```
car.isna().sum()
```

```

mpg          0
cylinders    0
displacement 0
horsepower   6
weight       0
acceleration 0
model_year   0
origin       0
name         0
dtype: int64

```

```
car=car.dropna()
car.isna().sum()
```

```

mpg          0
cylinders    0
displacement 0
horsepower   0
weight       0
acceleration 0
model_year   0
origin       0
name         0
dtype: int64

```

```
car.describe()
```

	mpg	cylinders	displacement	horsepower	weight	acceleration	
<b>count</b>	392.000000	392.000000	392.000000	392.000000	392.000000	392.000000	
<b>mean</b>	23.445918	5.471939	194.411990	104.469388	2977.584184	15.541327	

```
car.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 392 entries, 0 to 397
Data columns (total 9 columns):
#   Column          Non-Null Count  Dtype
---  -
0   mpg             392 non-null   float64
1   cylinders        392 non-null   int64
2   displacement     392 non-null   float64
3   horsepower       392 non-null   float64
4   weight           392 non-null   int64
5   acceleration     392 non-null   float64
6   model_year       392 non-null   int64
7   origin           392 non-null   object
8   name             392 non-null   object
dtypes: float64(4), int64(3), object(2)
memory usage: 30.6+ KB
```

```
car.shape
```

```
(398, 9)
```

```
df=pd.read_csv('https://github.com/YBI-Foundation/Dataset/raw/main/Fruits.csv')
df
```

	Fruit Category	Fruit Name	Fruit Weight	Fruit Width	Fruit Length	Fruit Colour Score
0	1	Apple	192	8.4	7.3	0.55
1	1	Apple	180	8.0	6.8	0.59
2	1	Apple	176	7.4	7.2	0.60
3	1	Apple	178	7.1	7.8	0.92
4	1	Apple	172	7.4	7.0	0.89
5	1	Apple	166	6.9	7.3	0.93
6	1	Apple	172	7.1	7.6	0.92
7	1	Apple	154	7.0	7.1	0.88
8	1	Apple	164	7.3	7.7	0.70
9	1	Apple	152	7.6	7.3	0.69
10	1	Apple	156	7.7	7.1	0.69
11	1	Apple	156	7.6	7.5	0.67
12	1	Apple	168	7.5	7.6	0.73
13	1	Apple	162	7.5	7.1	0.83
14	1	Apple	162	7.4	7.2	0.85
15	1	Apple	160	7.5	7.5	0.86
16	1	Apple	156	7.4	7.4	0.84
17	1	Apple	140	7.3	7.1	0.87

df.describe()

20	2	Orange	140	6.7	7.1	0.74
----	---	--------	-----	-----	-----	------

df.columns

```
Index(['Fruit Category', 'Fruit Name', 'Fruit Weight', 'Fruit Width',
      'Fruit Length', 'Fruit Colour Score'],
      dtype='object')
```

```
32          2      Orange      164      7.2      7.0      0.80
```

```
df.rank
```

```
<bound method NDFrame.rank of
0          1      Apple      192      8.4      7.3
1          1      Apple      180      8.0      6.8
2          1      Apple      176      7.4      7.2
3          1      Apple      178      7.1      7.8
4          1      Apple      172      7.4      7.0
5          1      Apple      166      6.9      7.3
6          1      Apple      172      7.1      7.6
7          1      Apple      154      7.0      7.1
8          1      Apple      164      7.3      7.7
9          1      Apple      152      7.6      7.3
10         1      Apple      156      7.7      7.1
11         1      Apple      156      7.6      7.5
12         1      Apple      168      7.5      7.6
13         1      Apple      162      7.5      7.1
14         1      Apple      162      7.4      7.2
15         1      Apple      160      7.5      7.5
16         1      Apple      156      7.4      7.4
17         1      Apple      140      7.3      7.1
18         1      Apple      170      7.6      7.9
19         2      Orange      86      6.2      4.7
20         2      Orange      84      6.0      4.6
21         2      Orange      80      5.8      4.3
22         2      Orange      80      5.9      4.3
23         2      Orange      76      5.8      4.0
24         2      Orange     342      9.0      9.4
25         2      Orange     356      9.2      9.2
26         2      Orange     362      9.6      9.2
27         2      Orange     204      7.5      9.2
28         2      Orange     140      6.7      7.1
29         2      Orange     160      7.0      7.4
30         2      Orange     158      7.1      7.5
31         2      Orange     210      7.8      8.0
32         2      Orange     164      7.2      7.0
33         2      Orange     190      7.5      8.1
34         2      Orange     142      7.6      7.8
35         2      Orange     150      7.1      7.9
36         2      Orange     160      7.1      7.6
37         2      Orange     154      7.3      7.3
38         2      Orange     158      7.2      7.8
39         2      Orange     144      6.8      7.4
40         2      Orange     154      7.1      7.5
41         2      Orange     180      7.6      8.2
42         2      Orange     154      7.2      7.2
43         3      Lemon      97      7.2     10.3
44         3      Lemon      70      7.3     10.5
45         3      Lemon      93      7.2      9.2
46         3      Lemon      80      7.3     10.2
```

47	3	Lemon	98	7.3	9.7
48	3	Lemon	87	7.3	10.1
49	3	Lemon	66	5.8	8.7
50	3	Lemon	65	6.0	8.2
51	3	Lemon	58	6.0	7.5
52	3	Lemon	59	5.9	8.0
53	3	Lemon	60	6.0	8.4
54	3	Lemon	58	6.1	8.5
55	3	Lemon	58	6.3	7.7
56	2	Lemon	58	5.9	8.1

df.corr()

	Fruit Category	Fruit Weight	Fruit Width	Fruit Length	Fruit Colour Score
Fruit Category	1.000000	-0.518165	-0.440674	0.413150	-0.321638
Fruit Weight	-0.518165	1.000000	0.884415	0.157620	0.125413
Fruit Width	-0.440674	0.884415	1.000000	0.396848	-0.076576
Fruit Length	0.413150	0.157620	0.396848	1.000000	-0.247047
Fruit Colour Score	-0.321638	0.125413	-0.076576	-0.247047	1.000000

df['Fruit Name']

```

0    Apple
1    Apple
2    Apple
3    Apple
4    Apple
5    Apple
6    Apple
7    Apple
8    Apple
9    Apple
10   Apple
11   Apple
12   Apple
13   Apple
14   Apple
15   Apple
16   Apple

```

17	Apple
18	Apple
19	Orange
20	Orange
21	Orange
22	Orange
23	Orange
24	Orange
25	Orange
26	Orange
27	Orange
28	Orange
29	Orange
30	Orange
31	Orange
32	Orange
33	Orange
34	Orange
35	Orange
36	Orange
37	Orange
38	Orange
39	Orange
40	Orange
41	Orange
42	Orange
43	Lemon
44	Lemon
45	Lemon
46	Lemon
47	Lemon
48	Lemon
49	Lemon
50	Lemon
51	Lemon
52	Lemon
53	Lemon
54	Lemon
55	Lemon
56	Lemon
57	Lemon

```
df['Fruit Weight'].nlargest()
```

26	362
25	356
24	342
31	210
27	204

Name: Fruit Weight, dtype: int64

```
df['Fruit Weight'].nsmallest()
```

51	58
54	58
55	58



```
56     58
52     59
Name: Fruit Weight, dtype: int64
```

```
df['Fruit Name'].min()
```

```
'Apple'
```

```
df['Fruit Name'].max()
```

```
'Orange'
```

```
ship=pd.read_csv('https://github.com/YBI-Foundation/Dataset/raw/main/Titanic.csv')
ship.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1309 entries, 0 to 1308
Data columns (total 14 columns):
#   Column      Non-Null Count  Dtype
---  -
0   pclass      1309 non-null   int64
1   survived    1309 non-null   int64
2   name        1309 non-null   object
3   sex         1309 non-null   object
4   age         1046 non-null   float64
5   sibsp       1309 non-null   int64
6   parch       1309 non-null   int64
7   ticket      1309 non-null   object
8   fare        1308 non-null   float64
9   cabin       295 non-null    object
10  embarked    1307 non-null   object
11  boat        486 non-null    object
12  body        121 non-null    float64
13  home.dest    745 non-null    object
dtypes: float64(3), int64(4), object(7)
memory usage: 143.3+ KB
```

```
ship['pclass']=ship['pclass'].astype('object')
ship.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1309 entries, 0 to 1308
Data columns (total 14 columns):
#   Column      Non-Null Count  Dtype
---  -
0   pclass      1309 non-null   object
1   survived    1309 non-null   int64
2   name        1309 non-null   object
3   sex         1309 non-null   object
4   age         1046 non-null   float64
5   sibsp       1309 non-null   int64
6   parch       1309 non-null   int64
7   ticket      1309 non-null   object
```

```
8   fare      1308 non-null   float64
9   cabin     295 non-null   object
10  embarked  1307 non-null   object
11  boat      486 non-null   object
12  body      121 non-null   float64
13  home.dest 745 non-null   object
dtypes: float64(3), int64(3), object(8)
memory usage: 143.3+ KB
```

```
ship['pclass']=ship['pclass'].astype('float64')
ship.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1309 entries, 0 to 1308
Data columns (total 14 columns):
#   Column      Non-Null Count  Dtype
---  ---
0   pclass      1309 non-null   float64
1   survived    1309 non-null   int64
2   name        1309 non-null   object
3   sex         1309 non-null   object
4   age         1046 non-null   float64
5   sibsp       1309 non-null   int64
6   parch       1309 non-null   int64
7   ticket      1309 non-null   object
8   fare        1308 non-null   float64
9   cabin       295 non-null   object
10  embarked    1307 non-null   object
11  boat        486 non-null   object
12  body        121 non-null   float64
13  home.dest    745 non-null   object
dtypes: float64(4), int64(3), object(7)
memory usage: 143.3+ KB
```

```
ship['embarked'].unique()

array(['S', 'C', nan, 'Q'], dtype=object)
```

```
mpg=car.copy()
mpg
```

	mpg	cylinders	displacement	horsepower	weight	acceleration	model_year
0	18.0	8	307.0	130.0	3504	12.0	70
1	15.0	8	350.0	165.0	3693	11.5	70
2	18.0	8	318.0	150.0	3436	11.0	70
3	16.0	8	304.0	150.0	3433	12.0	70
4	17.0	8	302.0	140.0	3449	10.5	70
5	15.0	8	429.0	198.0	4341	10.0	70
6	14.0	8	454.0	220.0	4354	9.0	70
7	14.0	8	440.0	215.0	4312	8.5	70
8	14.0	8	455.0	225.0	4425	10.0	70
9	15.0	8	390.0	190.0	3850	8.5	70
10	15.0	8	383.0	170.0	3563	10.0	70
11	14.0	8	340.0	160.0	3609	8.0	70
12	15.0	8	400.0	150.0	3761	9.5	70
13	14.0	8	455.0	225.0	3086	10.0	70

car.columns

```
Index(['mpg', 'displacement', 'horsepower', 'weight', 'acceleration',
      'model_year', 'origin', 'name'],
      dtype='object')
```

```
14  18.0      6    100.0    87.0    2774    15.5    70
car=car.drop('cylinders',axis=1)
```

```
15  21.0      6    200.0    85.0    2587    16.0    70
```

```
car[['displacement','origin']].value_counts()
```

displacement	origin	
350.0	usa	18
250.0	usa	17
318.0	usa	17
140.0	usa	16
98.0	usa	13
400.0	usa	13
225.0	usa	13
97.0	japan	11
302.0	usa	11
232.0	usa	11
121.0	europa	10
151.0	usa	10
97.0	europa	10
91.0	japan	10
231.0	usa	8
200.0	usa	8
351.0	usa	8
90.0	europa	7
304.0	usa	7
85.0	japan	6
122.0	usa	6
258.0	usa	5
135.0	usa	5
119.0	japan	5
108.0	japan	5
120.0	japan	5
105.0	usa	5
116.0	europa	4
134.0	japan	4
360.0	usa	4
156.0	usa	4
79.0	europa	4
305.0	usa	4
112.0	usa	4
429.0	usa	3
260.0	usa	3
70.0	japan	3
307.0	usa	3
173.0	usa	3
120.0	europa	3
198.0	usa	3
113.0	japan	3
455.0	usa	3
89.0	europa	3
86.0	japan	3
107.0	japan	3
98.0	europa	3
141.0	europa	2
79.0	japan	2
89.0	japan	2
168.0	japan	2
262.0	usa	2
163.0	europa	2
156.0	japan	2
146.0	japan	2

98.0	japan	2
199.0	usa	2

```
car['name'].nunique()
```

305

```
car['name'].unique()
```

```
array(['chevrolet chevelle malibu', 'buick skylark 320',  
      'plymouth satellite', 'amc rebel sst', 'ford torino',  
      'ford galaxie 500', 'chevrolet impala', 'plymouth fury iii',  
      'pontiac catalina', 'amc ambassador dpl', 'dodge challenger se',  
      'plymouth cuda 340', 'chevrolet monte carlo',  
      'buick estate wagon (sw)', 'toyota corona mark ii',  
      'plymouth duster', 'amc hornet', 'ford maverick', 'datsun pl510',  
      'volkswagen 1131 deluxe sedan', 'peugeot 504', 'audi 100 ls',  
      'saab 99e', 'bmw 2002', 'amc gremlin', 'ford f250', 'chevy c20',  
      'dodge d200', 'hi 1200d', 'chevrolet vega 2300', 'toyota corona',  
      'ford pinto', 'plymouth satellite custom', 'ford torino 500',  
      'amc matador', 'pontiac catalina brougham', 'dodge monaco (sw)',  
      'ford country squire (sw)', 'pontiac safari (sw)',  
      'amc hornet sportabout (sw)', 'chevrolet vega (sw)',  
      'pontiac firebird', 'ford mustang', 'mercury capri 2000',  
      'opel 1900', 'peugeot 304', 'fiat 124b', 'toyota corolla 1200',  
      'datsun 1200', 'volkswagen model 111', 'plymouth cricket',  
      'toyota corona hardtop', 'dodge colt hardtop', 'volkswagen type 3',  
      'chevrolet vega', 'ford pinto runabout', 'amc ambassador sst',  
      'mercury marquis', 'buick lesabre custom',  
      'oldsmobile delta 88 royale', 'chrysler newport royal',  
      'mazda rx2 coupe', 'amc matador (sw)',  
      'chevrolet chevelle concours (sw)', 'ford gran torino (sw)',  
      'plymouth satellite custom (sw)', 'volvo 145e (sw)',  
      'volkswagen 411 (sw)', 'peugeot 504 (sw)', 'renault 12 (sw)',  
      'ford pinto (sw)', 'datsun 510 (sw)',  
      'toyouta corona mark ii (sw)', 'dodge colt (sw)',  
      'toyota corolla 1600 (sw)', 'buick century 350',  
      'chevrolet malibu', 'ford gran torino', 'dodge coronet custom',  
      'mercury marquis brougham', 'chevrolet caprice classic',  
      'ford ltd', 'plymouth fury gran sedan',  
      'chrysler new yorker brougham', 'buick electra 225 custom',  
      'amc ambassador brougham', 'plymouth valiant',  
      'chevrolet nova custom', 'volkswagen super beetle', 'ford country',  
      'plymouth custom suburb', 'oldsmobile vista cruiser',  
      'toyota carina', 'datsun 610', 'maxda rx3', 'mercury capri v6',  
      'fiat 124 sport coupe', 'chevrolet monte carlo s',  
      'pontiac grand prix', 'fiat 128', 'opel manta', 'audi 100ls',  
      'volvo 144ea', 'dodge dart custom', 'saab 99le', 'toyota mark ii',  
      'oldsmobile omega', 'chevrolet nova', 'datsun b210',  
      'chevrolet chevelle malibu classic', 'plymouth satellite sebring',  
      'buick century luxus (sw)', 'dodge coronet custom (sw)',  
      'audi fox', 'volkswagen dasher', 'datsun 710', 'dodge colt',  
      'fiat 124 tc', 'honda civic', 'subaru', 'fiat x1.9',  
      'plymouth valiant custom', 'mercury monarch', 'chevrolet bel air',  
      'plymouth grand fury', 'buick century',  
      'chevrolet chevelle malibu', 'plymouth fury', 'buick skyhawk',
```

```
'chevrolet monza 2+2', 'ford mustang ii', 'toyota corolla',  
'pontiac astro', 'volkswagen rabbit', 'amc pacer', 'volvo 244dl',  
'honda civic cvcc', 'fiat 131', 'capri ii', 'renault 12tl',  
'dodge coronet brougham', 'chevrolet chevette', 'chevrolet woody',  
'vw rabbit', 'dodge aspen se', 'ford granada ghia',  
'pontiac ventura sj', 'amc pacer d/l', 'datsun b-210', 'volvo 245',  
'plymouth volare premier v8', 'mercedes-benz 280s',  
'cadillac seville', 'chevy c10', 'ford f108', 'dodge d100',  
'honda accord cvcc', 'buick opel isuzu deluxe', 'renault 5 gtl',  
'plymouth arrow gs', 'datsun f-10 hatchback',  
'oldsmobile cutlass supreme', 'dodge monaco brougham',
```

```
car.sort_values(['mpg','weight'])
```

	mpg	displacement	horsepower	weight	acceleration	model_year	origin	
<b>28</b>	9.0	304.0	193.0	4732	18.5	70	usa	
<b>26</b>	10.0	307.0	200.0	4376	15.0	70	usa	
<b>25</b>	10.0	360.0	215.0	4615	14.0	70	usa	
<b>124</b>	11.0	350.0	180.0	3664	11.0	73	usa	o
<b>27</b>	11.0	318.0	210.0	4382	13.5	70	usa	dc
<b>67</b>	11.0	429.0	208.0	4633	11.0	72	usa	

```
car.sort_values(['mpg','weight'],ascending=False)
```

	mpg	displacement	horsepower	weight	acceleration	model_year	origin	
322	46.6	86.0	65.0	2110	17.9	80	japan	r
329	44.6	91.0	67.0	1850	13.8	80	japan	h
325	44.3	90.0	48.0	2085	21.7	80	europa	v
394	44.0	97.0	52.0	2130	24.6	82	europa	y
326	43.4	90.0	48.0	2335	23.7	80	europa	y
244	43.1	90.0	48.0	1985	21.5	78	europa	vo

```
car.describe(include='all')
```

	mpg	displacement	horsepower	weight	acceleration	model_year
count	398.000000	398.000000	392.000000	398.000000	398.000000	398.000000
unique	NaN	NaN	NaN	NaN	NaN	NaN
top	NaN	NaN	NaN	NaN	NaN	NaN
freq	NaN	NaN	NaN	NaN	NaN	NaN
mean	23.514573	193.425879	104.469388	2970.424623	15.568090	76.010050
std	7.815984	104.269838	38.491160	846.841774	2.757689	3.697627
min	9.000000	68.000000	46.000000	1613.000000	8.000000	70.000000
25%	17.500000	104.250000	75.000000	2223.750000	13.825000	73.000000
50%	23.000000	148.500000	93.500000	2803.500000	15.500000	76.000000
75%	29.000000	262.000000	126.000000	3608.000000	17.175000	79.000000
max	46.600000	455.000000	230.000000	5140.000000	24.800000	82.000000

305	30.0	91.0	67.0	1905	13.0	82	japan	m
-----	------	------	------	------	------	----	-------	---

```
ship.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1309 entries, 0 to 1308
Data columns (total 14 columns):
#   Column      Non-Null Count  Dtype

```



```

---  -----  -----  -----
0    pclass    1309 non-null    float64
1    survived  1309 non-null    int64
2    name      1309 non-null    object
3    sex       1309 non-null    object
4    age       1046 non-null    float64
5    sibsp     1309 non-null    int64
6    parch     1309 non-null    int64
7    ticket    1309 non-null    object
8    fare      1308 non-null    float64
9    cabin     295 non-null     object
10   embarked  1307 non-null    object
11   boat      486 non-null    object
12   body      121 non-null    float64
13   home.dest  745 non-null    object
dtypes: float64(4), int64(3), object(7)
memory usage: 143.3+ KB

```

```
ship.columns
```

```

Index(['pclass', 'survived', 'name', 'sex', 'age', 'sibsp', 'parch', 'ticket',
      'fare', 'cabin', 'embarked', 'boat', 'body', 'home.dest'],
      dtype='object')

```

```
age=ship['age']
```

```
ship.age
```

```

0      29.00
1       0.92
2       2.00
3      30.00
4      25.00
...
1304    14.50
1305     NaN
1306    26.50
1307    27.00
1308    29.00
Name: age, Length: 1309, dtype: float64

```

```
type(age)
```

```
pandas.core.series.Series
```

```
age.shape
```

```
(1309,)
```

```
name=ship[['name']]
```

ship.iloc[100:300]







	name	fare
100	Duff Gordon, Sir. Cosmo Edmund ("Mr Morgan")	56.9292
101	Dulles, Mr. William Crothers	29.7000
102	Earnshaw, Mrs. Boulton (Olive Potter)	83.1583
103	Endres, Miss. Caroline Louise	227.5250
104	Fustis Miss Elizabeth Mussey	78.2667

```
ship.iloc[[10,20,30],[0,1,2,3]]
```

	pclass	survived	name	sex
10	1.0	0	Astor, Col. John Jacob	male
20	1.0	1	Beckwith, Mr. Richard Leonard	male
30	1.0	0	Blackwell, Mr. Stephen Weart	male

```
ship.loc[[10,20,30],['name','fare','sex']]
```

	name	fare	sex
10	Astor, Col. John Jacob	227.5250	male
20	Beckwith, Mr. Richard Leonard	52.5542	male
30	Blackwell, Mr. Stephen Weart	35.5000	male

13567 / 79.2000

```
ship.loc[100:300,['name','fare','sex']]
```

	name	fare	sex
100	Duff Gordon, Sir. Cosmo Edmund ("Mr Morgan")	56.9292	male
101	Dulles, Mr. William Crothers	29.7000	male
102	Earnshaw, Mrs. Boulton (Olive Potter)	83.1583	female
103	Endres, Miss. Caroline Louise	227.5250	female
104	Eustis, Miss. Elizabeth Mussey	78.2667	female
105	Evans, Miss. Edith Corse	31.6792	female
106	Farthing, Mr. John	221.7792	male
107	Flegenheim, Mrs. Alfred (Antoinette)	31.6833	female
108	Fleming, Miss. Margaret	110.8833	female
109	Flynn, Mr. John Irwin ("Irving")	26.3875	male
110	Foreman, Mr. Benjamin Laventall	27.7500	male
111	Fortune, Miss. Alice Elizabeth	263.0000	female
112	Fortune, Miss. Ethel Flora	263.0000	female
113	Fortune, Miss. Mabel Helen	263.0000	female
114	Fortune, Mr. Charles Alexander	263.0000	male
115	Fortune, Mr. Mark	263.0000	male
116	Fortune, Mrs. Mark (Mary McDougald)	263.0000	female
117	Francatelli, Miss. Laura Mabel	56.9292	female
118	Franklin, Mr. Thomas Parham	26.5500	male
119	Frauenthal, Dr. Henry William	133.6500	male
120	Frauenthal, Mr. Isaac Gerald	27.7208	male
121	Frauenthal, Mrs. Henry William (Clara Heinshei...	133.6500	female
122	Frolicher, Miss. Hedwig Margaritha	49.5000	female
123	Frolicher-Stehli, Mr. Maxmillian	79.2000	male
124	Frolicher-Stehli, Mrs. Maxmillian (Margaretha ...	79.2000	female
125	Fry, Mr. Richard	0.0000	male

17582 100.0000

ship.iloc[10:20,[0,1,2,3]]

	pclass	survived	name	sex
10	1.0	0	Astor, Col. John Jacob	male
11	1.0	1	Astor, Mrs. John Jacob (Madeleine Talmadge Force)	female
12	1.0	1	Aubart, Mme. Leontine Pauline	female
13	1.0	1	Barber, Miss. Ellen "Nellie"	female
14	1.0	1	Barkworth, Mr. Algernon Henry Wilson	male
15	1.0	0	Baumann, Mr. John D	male
16	1.0	0	Baxter, Mr. Quigg Edmond	male
17	1.0	1	Baxter, Mrs. James (Helene DeLaudeniére Chaput)	female
18	1.0	1	Bazzani, Miss. Albina	female
19	1.0	0	Beattie, Mr. Thomson	male

151

Hassab, Mr. Hammad 76.7292 male

ship.iloc[10:20,0:8]

	pclass	survived	name	sex	age	sibsp	parch	ti
<b>10</b>	1.0	0	Astor, Col. John Jacob	male	47.0	1	0	1
<b>11</b>	1.0	1	Astor, Mrs. John Jacob (Madeleine Talmadge Force)	female	18.0	1	0	1
<b>12</b>	1.0	1	Aubart, Mme. Leontine Pauline	female	24.0	0	0	1
<b>13</b>	1.0	1	Barber, Miss. Ellen "Nellie"	female	26.0	0	0	1
<b>14</b>	1.0	1	Barkworth, Mr. Algernon Henry Wilson	male	80.0	0	0	2
<b>15</b>	1.0	0	Baumann, Mr. John D	male	NaN	0	0	1

**177** Kimball, Mr. Edwin Nelson Jr 52.5542 male  
ship.loc[100:300, 'name': 'sex']



	name	sex
100	Duff Gordon, Sir. Cosmo Edmund ("Mr Morgan")	male
101	Dulles, Mr. William Crothers	male
102	Earnshaw, Mrs. Boulton (Olive Potter)	female
103	Endres, Miss. Caroline Louise	female
104	Eustis, Miss. Elizabeth Mussey	female
105	Evans, Miss. Edith Corse	female
106	Farthing, Mr. John	male
107	Flegenheim, Mrs. Alfred (Antoinette)	female
108	Fleming, Miss. Margaret	female
109	Flynn, Mr. John Irwin ("Irving")	male
110	Foreman, Mr. Benjamin Laventall	male
111	Fortune, Miss. Alice Elizabeth	female
112	Fortune, Miss. Ethel Flora	female
113	Fortune, Miss. Mabel Helen	female
114	Fortune, Mr. Charles Alexander	male
115	Fortune, Mr. Mark	male
116	Fortune, Mrs. Mark (Mary McDougald)	female

1711 51 000

ship[ship['fare']>=100]

	pclass	survived	name	sex	age	sibsp	parch	1
0	1.0	1	Allen, Miss. Elisabeth Walton	female	29.00	0	0	
1	1.0	1	Allison, Master. Hudson Trevor	male	0.92	1	2	
2	1.0	0	Allison, Miss. Helen Loraine	female	2.00	1	2	
3	1.0	0	Allison, Mr. Hudson Joshua Creighton	male	30.00	1	2	
4	1.0	0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	25.00	1	2	
10	1.0	0	Astor, Col. John Jacob	male	47.00	1	0	
11	1.0	1	Astor, Mrs. John Jacob (Madeleine Talmadge Force)	female	18.00	1	0	
16	1.0	0	Baxter, Mr. Quigg	male	24.00	0	1	13796 42 4000

ship.loc[(ship['fare']>=100), 'pclass': 'fare']

	pclass	survived	name	sex	age	sibsp	parch	1
<b>0</b>	1.0	1	Allen, Miss. Elisabeth Walton	female	29.00	0	0	
<b>1</b>	1.0	1	Allison, Master. Hudson Trevor	male	0.92	1	2	
<b>2</b>	1.0	0	Allison, Miss. Helen Loraine	female	2.00	1	2	
<b>3</b>	1.0	0	Allison, Mr. Hudson Joshua Creighton	male	30.00	1	2	
<b>4</b>	1.0	0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	25.00	1	2	
<b>10</b>	1.0	0	Astor, Col. John Jacob	male	47.00	1	0	
<b>11</b>	1.0	1	Astor, Mrs. John Jacob (Madeleine Talmadge Force)	female	18.00	1	0	
<b>16</b>	1.0	0	Baxter, Mr. Quigg Edmond	male	24.00	0	1	
<b>17</b>	1.0	1	Baxter, Mrs. James (Helen)	female	50.00	0	1	

ship.loc[(ship['fare']>=100)&(ship['sex']=='male')]

	pclass	survived	name	sex	age	sibsp	parch	tick	
<b>1</b>	1.0	1	Allison, Master. Hudson Trevor	male	0.92	1	2	1137	
<b>3</b>	1.0	0	Allison, Mr. Hudson Joshua Creighton	male	30.00	1	2	1137	
<b>10</b>	1.0	0	Astor, Col. John Jacob	male	47.00	1	0	177	
<b>16</b>	1.0	0	Baxter, Mr. Quigg Edmond	male	24.00	0	1	175	
<b>49</b>	1.0	1	Cardeza, Mr. Thomas Drake Martinez	male	36.00	0	1	177	
<b>54</b>	1.0	1	Carter, Master. William Thornton II	male	11.00	1	2	1137	
<b>56</b>	1.0	1	Carter, Mr. William Ernest	male	36.00	1	2	1137	
<b>71</b>	1.0	0	Clark, Mr. Walter Miller	male	27.00	1	0	135	
<b>96</b>	1.0	0	Douglas, Mr. Walter Donald	male	50.00	1	0	177	
<b>106</b>	1.0	0	Farthing, Mr. John	male	NaN	0	0	174	DC

ship.head()

pclass	survived	name	sex	age	sibsp	parch	ticket	
0	1.0	1	Allen, Miss. Elisabeth Walton	female	29.00	0	0	24160

```
tip=pd.read_csv('https://github.com/YBI-Foundation/Dataset/raw/main/Tips%20Payment%20Data.'
```

```

                                Trevor                                17608    402.0700

```

```
tip.describe()
```

	Total Bill	Tip	Size	Bill Per Person	CC Number
count	244.000000	244.000000	244.000000	244.000000	2.440000e+02
mean	19.785943	2.998279	2.569672	7.888197	2.563496e+15
std	8.902412	1.383638	0.951100	2.914234	2.369340e+15
min	3.070000	1.000000	1.000000	2.880000	6.040679e+10
25%	13.347500	2.000000	2.000000	5.800000	3.040731e+13
50%	17.795000	2.900000	2.000000	7.255000	3.525318e+15
75%	24.127500	3.562500	3.000000	9.390000	4.553675e+15
max	50.810000	10.000000	6.000000	20.270000	6.596454e+15

```
tip_percent=tip['Tip']/tip['Total Bill']*100
```

```

                                -----                                19900    30.0000

```

```
tip_percent
```

0	5.944673
1	16.054159
2	16.658734
3	13.978041
4	14.680765
5	18.623962
6	22.805017
7	11.607143
8	13.031915
9	21.853857
10	16.650438
11	14.180374
12	10.181582
13	16.277808
14	20.364127
15	18.164968
16	16.166505
17	22.774708
18	20.624632
19	16.222760

20	22.767857
21	13.553475
22	14.140774
23	19.228818
24	16.044400
25	13.138686
26	14.958863
27	15.760441
28	19.815668
29	15.267176
30	15.183246
31	13.623978
32	19.920319
33	11.841469
34	18.391451
35	14.962594
36	12.262416
37	18.133491
38	12.359551
39	15.989767
40	13.965087
41	14.547537
42	21.951220
43	13.636364
44	18.421053
45	16.402406
46	22.492128
47	18.518519
48	7.180385
49	16.629712
50	19.936204
51	25.267250
52	14.938236
53	15.694165
54	16.979656
55	18.009236
56	7.892660
57	5.679667

Castellana

tip['tip\_percent']=tip\_percent

-----

tip

	Total Bill	Tip	Gender	Smoker	Day	Time	Size	Bill Per Person		
0	16.99	1.01	Female	No	Sun	Dinner	2	8.49	Cun	
1	10.34	1.66	Male	No	Sun	Dinner	3	3.45		
2	21.01	3.50	Male	No	Sun	Dinner	3	7.00		
3	23.68	3.31	Male	No	Sun	Dinner	2	11.84	↑	
4	24.59	3.61	Female	No	Sun	Dinner	4	6.15		
5	25.29	4.71	Male	No	Sun	Dinner	4	6.32	E	
6	8.77	2.00	Male	No	Sun	Dinner	2	4.38	K	
7	26.88	3.12	Male	No	Sun	Dinner	4	6.72	Rot	
8	15.04	1.96	Male	No	Sun	Dinner	2	7.52	N	
9	14.78	3.23	Male	No	Sun	Dinner	2	7.39		
10	10.27	1.71	Male	No	Sun	Dinner	2	5.14	Willi	
11	35.26	5.00	Female	No	Sun	Dinner	4	8.82		
12	15.42	1.57	Male	No	Sun	Dinner	2	7.71	H:	
13	18.43	3.00	Male	No	Sun	Dinner	4	4.61		
14	14.83	3.02	Female	No	Sun	Dinner	2	7.42		
15	21.58	3.92	Male	No	Sun	Dinner	2	10.79	13572	80.0000

tip['tip\_percent']=tip\_percent.round(1)

10 10.33 1.67 Female No Sun Dinner 3 3.44

tip

	Total Bill	Tip	Gender	Smoker	Day	Time	Size	Bill Per Person	
0	16.99	1.01	Female	No	Sun	Dinner	2	8.49	Cun
1	10.34	1.66	Male	No	Sun	Dinner	3	3.45	
2	21.01	3.50	Male	No	Sun	Dinner	3	7.00	
3	23.68	3.31	Male	No	Sun	Dinner	2	11.84	↑
4	24.59	3.61	Female	No	Sun	Dinner	4	6.15	
5	25.29	4.71	Male	No	Sun	Dinner	4	6.32	E
6	8.77	2.00	Male	No	Sun	Dinner	2	4.38	K
7	26.88	3.12	Male	No	Sun	Dinner	4	6.72	Rot
8	15.04	1.96	Male	No	Sun	Dinner	2	7.52	N
9	14.78	3.23	Male	No	Sun	Dinner	2	7.39	
10	10.27	1.71	Male	No	Sun	Dinner	2	5.14	Willi
11	35.26	5.00	Female	No	Sun	Dinner	4	8.82	
12	15.42	1.57	Male	No	Sun	Dinner	2	7.71	H;
13	18.43	3.00	Male	No	Sun	Dinner	4	4.61	
14	14.83	3.02	Female	No	Sun	Dinner	2	7.42	
15	21.58	3.92	Male	No	Sun	Dinner	2	10.79	
16	10.33	1.67	Female	No	Sun	Dinner	3	3.44	I
17	16.29	3.71	Male	No	Sun	Dinner	3	5.43	

75

usa

```
tip=tip.drop(['Payer Name'],axis=1)
```



tip



Total Bill	Tip	Gender	Smoker	Day	Time	Size	Bill Per Person		
								73	usa

```
tip.set_index('Tip')
```

	Total Bill	Gender	Smoker	Day	Time	Size	Bill Per Person	Cd
Tip								
1.01	16.99	Female	No	Sun	Dinner	2	8.49	35603251

Double-click (or enter) to edit

3.50	21.01	Male	No	Sun	Dinner	2	7.00	60118121
------	-------	------	----	-----	--------	---	------	----------

```
tip=tip.reset_index()
tip
```

	index	Total Bill	Tip	Gender	Smoker	Day	Time	Size	Bi P Pers
0	0	16.99	1.01	Female	No	Sun	Dinner	2	8
1	1	10.34	1.66	Male	No	Sun	Dinner	3	3
2	2	21.01	3.50	Male	No	Sun	Dinner	3	7
3	3	23.68	3.31	Male	No	Sun	Dinner	2	11
4	4	24.59	3.61	Female	No	Sun	Dinner	4	6
5	5	25.29	4.71	Male	No	Sun	Dinner	4	6
6	6	8.77	2.00	Male	No	Sun	Dinner	2	4
7	7	26.88	3.12	Male	No	Sun	Dinner	4	6
8	8	15.04	1.96	Male	No	Sun	Dinner	2	7
9	9	14.78	3.23	Male	No	Sun	Dinner	2	7
10	10	10.27	1.71	Male	No	Sun	Dinner	2	5
11	11	35.26	5.00	Female	No	Sun	Dinner	4	8
12	12	15.42	1.57	Male	No	Sun	Dinner	2	7
13	13	18.43	3.00	Male	No	Sun	Dinner	4	4
14	14	14.83	3.02	Female	No	Sun	Dinner	2	7
15	15	21.58	3.92	Male	No	Sun	Dinner	2	10
16	16	10.33	1.67	Female	No	Sun	Dinner	3	3
17	17	16.29	3.71	Male	No	Sun	Dinner	3	5
18	18	16.97	3.50	Female	No	Sun	Dinner	3	5