

Ques 04: How do I rename columns in pandas dataframe?

```
In [2]: import pandas as pd
```

```
# See the column names
ufo_ds = pd.read_csv('http://bit.ly/uforeports')
ufo_ds.columns
```

```
Out[2]: Index(['City', 'Colors Reported', 'Shape Reported', 'State', 'Time'], dtype='object')
```

```
In [3]: ufo_ds.head(3)
```

```
Out[3]:
```

	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

```
In [4]: ufo_ds.rename(columns = {'Colors Reported':'Color_Reported', 'Shape Reported':'Shape_Reported'})
ufo_ds.columns
```

```
Out[4]: Index(['City', 'Colors Reported', 'Shape Reported', 'State', 'Time'], dtype='object')
```

```
In [5]: # The column name is not changed permanently. We have to put one more argument : inplace = True.

ufo_ds.rename(columns = {'Colors Reported':'Color_Reported', 'Shape Reported':'Shape_Reported'}, inplace=True)
ufo_ds.columns
```

```
Out[5]: Index(['City', 'Color_Reported', 'Shape_Reported', 'State', 'Time'], dtype='object')
```

```
In [6]: ufo_ds.head(2)
```

```
Out[6]:
```

	City	Color_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

```
In [8]: # Another way of renaming [ If we want to change all the column name ]

ufo_col = ['city', 'color', 'shape', 'state', 'time']
ufo_ds.columns = ufo_col
ufo_ds.columns
```

```
Out[8]: Index(['city', 'color', 'shape', 'state', 'time'], dtype='object')
```

```
In [9]: # Or we can rename the columns name when we load the dataset
# 0th row will be header

ufo_col = ['city', 'color', 'shape', 'state', 'time']
ufo_ds = pd.read_csv('http://bit.ly/uforeports', header=0, names = ufo_col) # Replace 0th row (Given Header row)
ufo_ds.head(3)
```

```
Out[9]:
```

	city	color	shape	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

If we have 100 columns having space in their names, and we want to replace these spaces.
How we can do that ?

We can do that using **string methods**. Each column name is a string

```
In [10]: ufo_ds = pd.read_csv('http://bit.ly/uforeports')
ufo_ds.head(2)
```

Out[10]:

	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

```
In [11]: ufo_ds.columns = ufo_ds.columns.str.replace(' ', '_') # "ufo_ds.columns" is reassigned
```

```
In [12]: ufo_ds.head(3)
```

Out[12]:

	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

```
In [ ]:
```