How To Drop One or More Columns in Pandas Dataframe?

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Often while working with a bigger pandas dataframe with multiple columns, one wants to drop one or more columns from a pandas dataframe.

How To Drop Columns in Pandas?

One typically drops columns, if the columns are not needed for further analysis. Pandas **drop** function allows you to drop/remove one or more columns from a dataframe.
Let us see some examples of dropping or removing columns from a real world data set. Let us load pandas and load gapminder data from a URL.

```
1   import  pandas as pd
2   gapminder_url = 'https://bit.ly/2cLzoxH'
3   gapminder  = pd.read_csv(gapminder_url)
4   gapminder.head()
```

Let us do some filtering to make the dataframe smaller just for the ease of illustrating the examples of using drop function in Pandas. After filtering, we will have a smaller dataframe with just four rows and six columns.

```
1   gapminder_ocean  =  gapminder[(gapminder.year > 2000  ) &
2   (gapminder.continent = = 'Oceania' )]
3   gapminder_ocean.shape
4   gapminder_ocean
```

How To Drop a Single Column from a Dataframe?

To drop a single column from pandas dataframe, we need to provide the name of the column to be dropped as a list as an argument to drop function. Here, we have a list containing just one element, 'pop' variable. Pandas drop function can drop column or row. To specify we want to drop column, we need to provide axis=1 as another argument to drop function.

```
1   gapminder_ocean.drop([ 'pop' ], axis = 1 )
```

The resulting dataframe will have just five columns instead of six. The column containing pop variable is removed now.

```
1   country year     continent   lifeExp gdpPercap
2   70   Australia    2002    Oceania   80.370   30687.75473
3   71   Australia    2007    Oceania   81.235   34435.36744
4   1102   New Zealand  2002    Oceania   79.110
5   23189.80135
    1103   New Zealand  2007    Oceania   80.204
    25185.00911
```

How To Drop Multiple Columns from a Dataframe?

Pandas' drop function can be used to drop multiple columns as well. To drop or remove multiple columns, one simply needs to give all the names of columns that we want to drop as a list. Here is an example with dropping three columns from gapminder dataframe.

```
1   gapminder_ocean.drop([ 'pop' ,   'gdpPercap' ,   'continent' ], axis = 1 )
```

Note that now the resulting column contains just three columns instead of six columns.

```
1   country year     lifeExp
2   70   Australia    2002    80.370
3   71   Australia    2007    81.235
4   1102   New Zealand  2002
5   79.110
    1103   New Zealand  2007
    80.204
```

How To Drop Specific Rows from a Dataframe?

Pandas make it easy to drop rows as well. We can use the same drop function. To drop one or few rows from a pandas dataframe, we need to specify the row indexes that need to be dropped and axis=0 argument. In this case, row indexes are numbers so we can create a list of row numbers to be dropped. Here, we have dropped rows corresponding to Australia.

```
1   gapminder_ocean.drop([ 70 ,  71 ],axis = 0 )
2   country year     pop continent   lifeExp gdpPercap
3   1102   New Zealand  2002    3908037.0   Oceania   79.110
4   23189.80135
    1103   New Zealand  2007    4115771.0   Oceania   80.204
    25185.00911
```