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Python | Pandas dataframe.insert()

Pandas insert method allows the user to insert a column in a dataframe or series(1-D Data frame). A column can also be inserted manually in a data frame by the following method, but there isn't much freedom here.
For example, even column location can't be decided and hence the inserted column is always inserted in the last position.

Syntax:

```
DataFrameName.insert(loc, column, value, allow_duplicates = False)
```

Parameters:

loc: *loc is an integer which is the location of column where we want to insert new column. This will shift the existing column at that position to the right.*
column: *column is a string which is name of column to be inserted.*
value: *value is simply the value to be inserted. It can be int, string, float or anything or even series / List of values. Providing only one value will set the same value for all rows.*
allow_duplicates : *allow_duplicates is a boolean value which checks if column with same name already exists or not.*

Find the link to csv file used from here.

Inserting a column with static value:

```python
# importing pandas module
import pandas as pd

# reading csv file
data = pd.read_csv("pokemon.csv")

# displying  dataframe - Output 1
data.head()
```

Output:

	Pokemon	Type
0	Bulbasaur	Grass
1	Ivysaur	Grass
2	Venusaur	Grass
3	Charmander	Fire
4	Charmeleon	Fire

After Inserting column:

```python
# importing pandas module
import pandas as pd
```

```
# reading csv file
data = pd.read_csv("pokemon.csv")

# displaying  dataframe - Output 1
data.head()

# inserting column with static value in data frame
data.insert(2, "Team", "Any")

# displaying data frame again - Output 2
data.head()
```

	Pokemon	Type	Team
0	Bulbasaur	Grass	Any
1	Ivysaur	Grass	Any
2	Venusaur	Grass	Any
3	Charmander	Fire	Any
4	Charmeleon	Fire	Any

Passing series with different value for each row:

In this example, a series is created and some values are passed to the series through a for loop. After that, the series is passed in pandas insert function to append series in the Data frame with values passed.

```
# importing pandas module
import pandas as pd

# creating a blank series
Type_new = pd.Series([])

# reading csv file
data = pd.read_csv("pokemon.csv")

# running a for loop and asigning some values to series
for i in range(len(data)):
    if data["Type"][i] == "Grass":
        Type_new[i]="Green"

    elif data["Type"][i] == "Fire":
        Type_new[i]="Orange"

    elif data["Type"][i] == "Water":
        Type_new[i]="Blue"

    else:
        Type_new[i]= data["Type"][i]

# inserting new column with values of list made above
data.insert(2, "Type New", Type_new)

# list output
data.head()
```

Output:

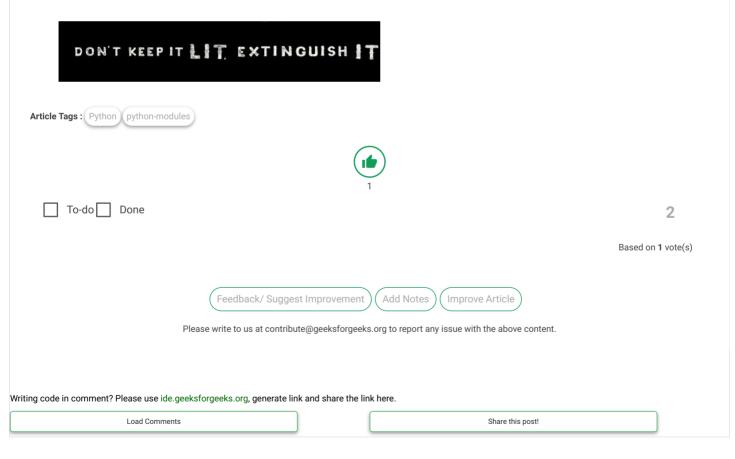|	Pokemon	Type	Type New
0	Bulbasaur	Grass	Green
1	Ivysaur	Grass	Green
2	Venusaur	Grass	Green
3	Charmander	Fire	Orange
4	Charmeleon	Fire	Orange

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