

Replace scalar values using .replace()

OPTIMIZING PYTHON CODE WITH PANDAS



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The popular name dataset

Year of Birth	Gender	Ethnicity	Child's First Name	Count	Rank
2011	FEMALE	ASIAN AND PACIFIC ISLANDER	SOPHIA	119	1
2011	FEMALE	ASIAN AND PACIFIC ISLANDER	CHLOE	106	2

Replace values in pandas

```
start_time = time.time()
names['Gender'].loc[names.Gender=='MALE'] = 'BOY'
print("Results from the first method calculated in %s seconds" % (time.time() - start_time))
```

```
Results from the first method calculated in 0.0311849 seconds
```

Replace values using .replace()

```
start_time = time.time()
names['Gender'].replace('MALE', 'BOY', inplace=True)
print("Results from the first method calculated in %s seconds" % (time.time() - start_time))
```

```
Results from the first method calculated in 0.0016758441925 seconds
```

```
Difference in speed: 1,704.52411439%
```

Let's do it

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Replace values using lists

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Replace multiple values with one value

Year of Birth	Gender	Ethnicity	Child's First Name	Count	Rank
2011	FEMALE	WHITE NON HISP	HELENA	97	4

```
start_time = time.time()
names['Ethnicity'].loc[(names["Ethnicity"] == 'WHITE NON HISPANIC') |
                      (data["Ethnicity"] == 'WHITE NON HISP')] = 'WNH'
print("Results from the above operation calculated in %s seconds" %
      (time.time() - start_time))
```

```
Results from the second method calculated in 0.0276169776917 seconds
```

Replace multiple values using .replace() I

```
start_time = time.time()
names['Ethnicity'].replace(['WHITE NON HISPANIC', 'WHITE NON HISP'],
                           'WNH', inplace=True)
print("Results from the above operation calculated in %s seconds"
      % (time.time() - start_time))
```

Results from the above operation calculated in 0.00144791603088 seconds

Difference in speed: 2160.68681809%


```
names['Ethnicity'].replace(['WHITE NON HISP'], 'WHITE NON HISPANIC', inplace=True)  
names['Ethnicity'].replace(['BLACK NON HISP'], 'BLACK NON HISPANIC', inplace=True)
```

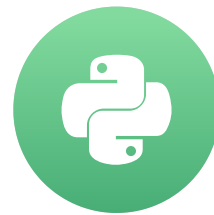
```
names['Ethnicity'].replace(['BLACK NON HISP', 'WHITE NON HISP'], ['BLACK NON HISPANIC',  
    'WHITE NON HISPANIC'], inplace=True)
```

Let's do it

OPTIMIZING PYTHON CODE WITH PANDAS

Replace values using dictionaries

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Replace single values with dictionaries

```
start_time = time.time()
names['Gender'].replace(({ 'MALE': 'BOY', 'FEMALE': 'GIRL' }),
inplace=True)
print("Results from the first method calculated in %s seconds" % (time.time() - start_time))
```

Results from the first method calculated in 0.00197792053223 seconds

```
start_time = time.time()
names['Gender'].replace('MALE', 'BOY', inplace=True)
names['Gender'].replace('FEMALE', 'GIRL', inplace=True)
print("Results from the first method calculated in %s seconds" % (time.time() - start_time))
```

Results from the first method calculated in 0.00307083129883 seconds

Difference in speed: 55.2555448407%

Replace multiple values using dictionaries

```
start_time = time.time()
names.replace({'Ethnicity': {'ASIAN AND PACI': 'ASIAN', 'ASIAN AND PACIFIC ISLANDER': 'ASIAN',
                             'BLACK NON HISPANIC': 'BLACK', 'BLACK NON HISP': 'BLACK',
                             'WHITE NON HISPANIC': 'WHITE', 'WHITE NON HISP': 'WHITE'}})

print("Results from the above operation calculated in %s seconds" % (time.time() - start_time))
```

```
Results from the above operation calculated in 0.0028018 seconds
```

Let's do it!

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