

In [1]:



```
# A Pandas series is a data structure that stores data in the form
# of a column. A series is normally used to store information
# about a particular attribute in your dataset. Let's see how you
# can create a series in Pandas.
# There are different ways to create a series with Pandas. The
# following script imports the Pandas module and then calls the
# Series() class constructor to create an empty series. Here is
# how to do that:

# empty series
import pandas as pd
my_series = pd.Series()
print(my_series)
```

```
Series([], dtype: float64)
```

<ipython-input-1-c46511ad4fca>:12: DeprecationWarning: The default dtype for empty Series will be 'object' instead of 'float64' in a future version. Specify a dtype explicitly to silence this warning.

```
my_series = pd.Series()
```

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```
# You can also create a series using a NumPy array. But, first,
# you need to pass the array to the Series() class constructor, as
# shown in the script below.

# series using numpy array
import pandas as pd
import numpy as np
my_array = np.array([10, 20, 30, 40, 50])
my_series = pd.Series(my_array)
print(my_series)

# In the output, you can see that the indexes for a series
# start from 0 to 1 less than the number of items in the series.
```

```
0    10
1    20
2    30
3    40
4    50
dtype: int32
```

In [4]:

```
# You can also define custom indexes for your series. To do so,  
# you need to pass your list of indexes to the index attribute of  
# the Series class, as shown in the script below:  
# series with custom indexes  
  
import pandas as pd  
import numpy as np  
my_array = np.array([10, 20, 30, 40, 50])  
my_series = pd.Series(my_array, index = ["num1", "num2", "num3", "num4", "num5"])  
print(my_series)
```

```
num1    10  
num2    20  
num3    30  
num4    40  
num5    50  
dtype: int32
```

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```
# You can also create a series by directly passing a Python list  
# to the Series() class constructor.  
# series using a list  
  
import pandas as pd  
import numpy as np  
my_series = pd.Series([10, 20, 30, 40, 50], index = ["num1", "num2", "num3", "num4", "num5"])  
print(my_series)
```

```
num1    10  
num2    20  
num3    30  
num4    40  
num5    50  
dtype: int64
```

In [6]:

```
# Finally, a scalar value can also be used to define a series. In  
# case you pass a list of indexes, the scalar value will be  
# repeated the number of times equal to the items in the index  
# list. Here is an example:  
# series using a scalar  
  
import pandas as pd  
import numpy as np  
my_series = pd.Series(25, index = ["num1", "num2", "num3", "num4", "num5"])  
print(my_series)
```

```
num1    25  
num2    25  
num3    25  
num4    25  
num5    25  
dtype: int64
```

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```
# Finally, you can also create a series using a dictionary. In this
# case, the dictionary keys will become series indexes while the
# dictionary values are inserted as series items. Here is an
# example:
# series using dictionary
```

```
import pandas as pd
import numpy as np
my_dict = {'num1':6,
           'num2':7,
           'num3':8}
my_series = pd.Series(my_dict)
print(my_series)
```

```
num1    6
num2    7
num3    8
dtype: int64
```

In [8]:

```
# Let's see some of the useful operations you can perform with
# the Pandas series.
# You can use square brackets as well as index labels to access
# series items, as shown in the following script:

## Accessing Items
import pandas as pd
my_series = pd.Series([10, 20, 30, 40, 50], index = ["num1", "num2", "num3", "num4", "num5"])
print(my_series[0])
print(my_series['num3'])
```

```
10
30
```

In [9]:

```
# Using the min() and max() functions from the NumPy module,
# you can find the maximum and minimum values, respectively,
# from a series. Look at the following script for reference.
# Finding Maximum and Minimum Values
```

```
import pandas as pd
import numpy as np
my_series = pd.Series([5, 8, 2, 11, 9])
print(np.min(my_series))
print(np.max(my_series))
```

```
2
11
```

In [10]:



```
# Similarly, the mean() method from the NumPy module can  
# find the mean of a Pandas series, as shown in the following  
# script.  
# Finding Mean  
  
import pandas as pd  
import numpy as np  
my_series = pd.Series([5, 8, 2, 11, 9])  
print(my_series.mean())
```

7.0

In [12]:



```
# The following script finds the median value of a Pandas series.  
# Finding Median  
  
import pandas as pd  
import numpy as np  
my_series = pd.Series([5, 8, 2, 11, 9])  
print(my_series.median())
```

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In [13]:



```
# You can also find the data type of a Pandas series using the  
# dtype attribute. Here is an example:  
  
## Finding Data Type  
import pandas as pd  
import numpy as np  
my_series = pd.Series([5, 8, 2, 11, 9])  
print(my_series.dtype)
```

int64