

Pandas

We have seen Numpy in the last section. It is good at performing math operation on 2d-arrays of numbers. But the major drawback is, it cannot deal with heterogenous values. So, Pandas dataframes are helpful in that aspect for storing different data types and referring the values like a dict in python instead of just referring each item with index.

[Link to Official Documentation \(http://pandas.pydata.org/pandas-docs/version/0.23/dsintro.html\)](http://pandas.pydata.org/pandas-docs/version/0.23/dsintro.html)

Series

Pandas series are almost same as nd arrays in numpy, with a additional inferencing ability with custom labels like *keys* in a *dictionary* in python.

```
In [3]: import numpy as np
import pandas as pd
```

```
In [10]: #Example

series2 = pd.Series(data = [1,2,3], index = ['key1', 'key2', 'key3'])
series2
```

```
Out[10]: key1    1
key2    2
key3    3
dtype: int64
```

Question 1

Convert a given dict to pd series.

[Hint: Use **.Series**]

```
In [5]: d1 = {'a': 1, 'b': 2, 'c': 3}
```

```
In [9]: series1
```

```
Out[9]: a    1
b    2
c    3
dtype: int64
```

You can directly use numpy functions on series.