-Timepasscoders

1. Pandas - (Series and DataFrame)

→ Pandas is mainly used for data analysis.

→ Using pandas we can import data from various file formats such as CSV (comma-separated values), JSON, SQL, Microsoft Excel.

→ To import pandas

pip install pandas ← installing in terminal

import pandas as pd ← importing pandas

→ To Read CSV

```
X = pd.read_csv('file path.csv')
```

↓ Any variable name

↓ It will be the file name if you are in same path

Series and DataFrame

Series: Single dimension, it is like a single column in a table

DataFrame: Multi dimensional, like a table.

Data Frame

	Name	height	weight
0	Nitin	6	50
1	Teja	5	40
2	Sindhu	4	45
3	Shishira	5	58

Series

Example - 1.

	height
0	6
1	5
2	4
3	5

Example - 2

	Name
0	Nitin
1	Teja
2	sindhu
3	shishira

→ How to get series from a DataFrame

For suppose

```
x = pd.read_csv('info.csv')
```

Here x will be a DataFrame

~~y = pd~~

```
y = x["height"]
```

Now y will be series with height column

Series

→ List to Series

```
a = [8, 5, 9]
x = Pd.Series(a)
print(x)
```

Output

```
0  8
1  5
2  9
```

→ List to Series with index or label.

```
a = [8, 5, 9]
x = pd.Series(a, index = ["a", "h", "p"])
Print(x)
```

Output

```
a    8
h    5
p    9
dtype: int64
```

dtype → data type

int64 → 64 bit integer

→ Refer by label

```
a = [8, 4, 7]
x = pd.Series(a, index = ["i", "t", "k"])
Print(x["t"])
```

output

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→ Dictionary to Series

```
Calories = {"day1": 420, "day2": 380, "day3": 390}

x = pd.Series(calories)

print(x)
```

Output

```
day1    420
day2    380
day3    390
```

→ Specific items of dictionary to Series

```
// consider the above calories only

x = pd.Series(calories, index = ["day1", "day2"])

print(x)
```

Output

```
day1    420
day2    380
```

Data Frames

→ creating a dictionary

```
hlo = {
        "cars": ['a', 'b', 'c'],
        "cost": [8 , 9, 3]
      }
```

→ Dictionary to Data Frame

```
x = pd. DataFrame (hlo)
print (x)
```

output

	cars	cost
0	a	8
1	b	9
2	c	3

→ To get details of specific row (locate row)

```
print (x.loc[0])
```

Output

cars 9

cost 8

→ For getting multiple rows we can use [0,1] or [0:]

→ Dictionary to DataFrame with index

```
//use the previous dictionary
x = pd.DataFrame(dat hlo, index=["India","USA",
                                 "Japan"])
Print(x)
```

Output:

	Cars	cost
India	a	8
USA	b	9
Japan	c	3