Module 9: Developing Web Maps and Representing Information Using Plots

Assignment

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Operations on pandas

1. Create a pandas DataFrame having the following structure:

	float_col	int_col	str_col
0	0.1	1	a
1	0.2	2	b
2	0.2	6	None
3	10.1	8	c
4	NaN	-1	a

2. Filter the columns **float_col** and **int_col** from the DataFrame in one query.

   Hint: use *ix* method of DataFrames. Print without using *ix* method.

3. Filter the records from **float_col** having a value greater than 0.15 and in a separate query, filter **float_col** value equal to 0.1.

4. Filter the records from the DataFrame which satisfies both the conditions **float_col** greater than 0.1 and **int_col** greater than 2.

5. Filter the records from the DataFrame which satisfies the conditions **float_col** not greater than 0.1.

6. Create a new DataFrame where column **int_col** is renamed to a new name.

7. Modify the existing DataFrame and rename the column **int_col** to a new name.

8. Drop the rows where values are missing from the DataFrame.

9. Change the missing value in column **float_col** as the mean value of the **float_col**

10. Change all the values of **str_col** with a new value and drop the missing values. The New value should have the prefix **map_** and original value. For example, map_a, map_b.

11. Group all the values of **str_col** and find the mean of **float_col** in all the groups, respectively.

12. Find the covariance of **float_col** and **int_col.**

13. Find the correlation of **float_col** and **int_col.**

14. Create a DataFrame **other** having columns **some_val** and **str_col** with the given values:

	some_val	str_col
0	1	a
1	2	b

Perform inner join, outer join, left join, and right join with the DataFrame **x.**

15. When the same invitations are sent to many people, the body of the mail does not change. Only the name (and maybe address) needs to be changed. Mail merge is a process of doing this. Instead of writing each mail separately, we can have a template for the body of the mail and a list of names that can be merged.

    Create a text file "names.txt" having the names:

    Anil
    Sunita
    Suman
    Lokesh
    Sumita
    John
    Johny

    Create a text file "body.txt" having the body of the email as written below:

    I am going to Delhi. Let's meet on 7th Jan 2018

Have a great day

Regards
Team Victory

Write a program to create separate files as Anil.txt, Sunita.txt, Suman.txt, etc. After picking names from names.txt. content of these files looks like the following:

Anil.txt

Hello Anil
I am going to Delhi. Let's meet on 7th Jan 2018
Have a great day
Regards
Team Victory

Sunita.txt

Hello Sunita
I am going to Delhi. Let's meet on 7th Jan 2018
Have a great day
Regards
Team Victory