Scientific Computing with Python Lab

9th Session(Mar 26th)

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Today

we are going to talk about

- Open file
- Write file

Before we start

- Clarify your directory

 - Make the directory to download file and make a python script

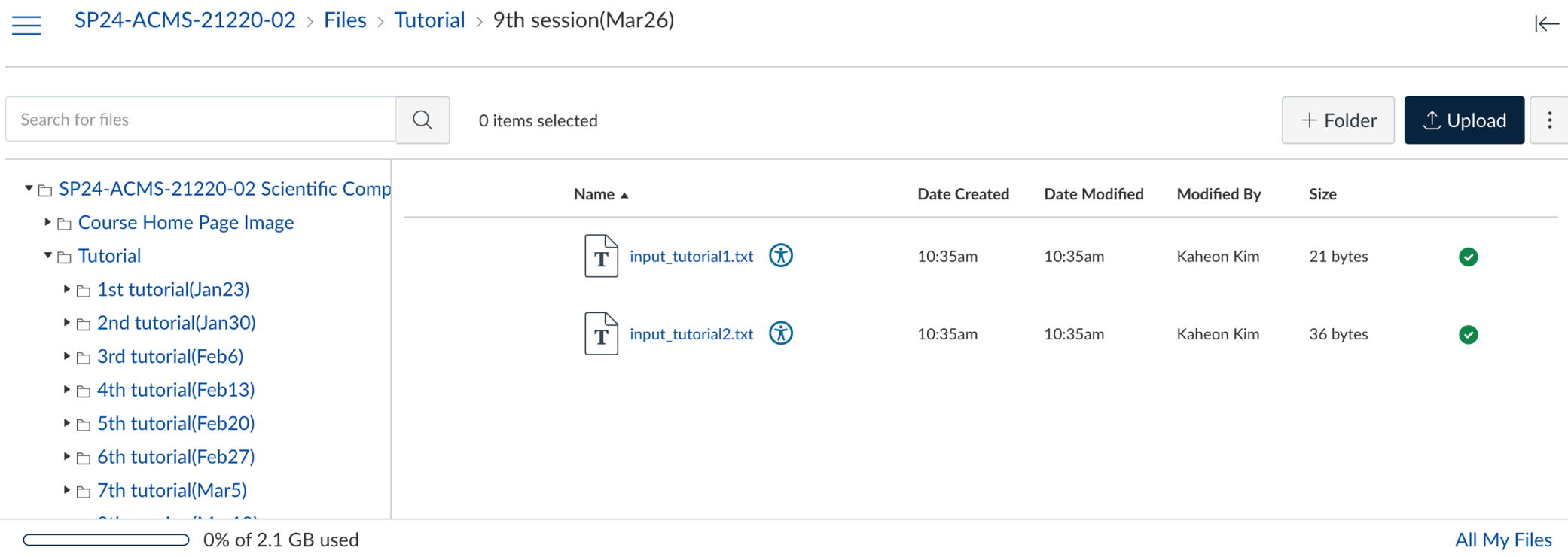
 - Stick to the folder for your tasks(based on the homework/

 problem)

- Also, for your homework, don’t do the all task in one folder(Download, Desktop, Document, …)

Before we start

- Download 2 txt files in the tutorial folder in the canvas



Read Files

- Code

with open(“file_name.txt”, **“r”**) as variable_name:

————————operation ————————-

- Parameters

- file_name.txt : name of the input file, you downloaded

- “r” : read the input file

- variable_name : store the information in to the variable named “variable_name”

Split the lines

- Code

  with open(“file_name.txt”, “r”) as variable_name:

  lines = variables.**readlines**()

- readlines : split the txt file based on the lines save it into the list named “variable_name”

Practice

```
1;2;3
4;5;10
11;13;28
```

Result

```
In [2]: lines
Out[2]: ['1;2;3\n', '4;5;10\n', '11;13;28']
```

Split the string

- Code

  string.strip().split(‘splitting_standard’)

- split_standard : things located between numbers

  ex. “1,2,3” → split_standard : “,”

```
string = '1,2,3\n'
```

```
splited_string
['1', '2', '3']
```

Result

list operation

- Code

```
modified_list = [operation(x) for x in list_]
```

```
string = '1,2,3\n'
```

Practice

```
In [23]: splited_string_int
Out[23]: [1, 2, 3]
```

list operation

- Code

```
modified_list = [operation(x) for x in list_]
```

- Code for Matrix Calculation

Practice (Matrix Calculation)

Read Files

- Code

```
with open(“file_name.txt”, “w”) as output_file:
——————————operation ——————————-
```

- Paramters

  - file_name.txt : name of the output file, you want to form

  - “w” : write the new output file

  - output_file : store the information into output_file where we are going to do the jobs

Write files

- Start with blank txt file

  output_file.write(“something_you_want_to_write”)

- Writing option : “something_you_want_to_write”

  If you want to write integer/float stored in some variables,

  → Same as print option : fstring

Practice

Find the mean of each entries of the matrix **having input**