COMPUTING SUBJECT:	Machine Learning
TYPE:	WORK ASSIGNMENT
<b>IDENTIFICATION:</b>	Panda Introduction
COPYRIGHT:	Michael Claudius
<b>DEGREE OF DIFFICULTY:</b>	Easy
TIME CONSUMPTION:	1 hours
EXTENT:	< 50 lines
OBJECTIVE:	Get familiar with Spyder and Jupyter
COMMANDS:	

## **IDENTIFICATION:** Panda Introduction

## The Mission

In this assignment, you are to become familiar with use of Panda.

To print out and to plot data from a 2 dimensional array (matrix) using Panda.

## Remark

The Pandas library is part of the Data Science / Machine Learning ecosystem in Python. It provides the programmer with an efficient tool for modelling, storing and outputting data.

The problem

In this assignment you are to import the Pandas library, initialize a DataFrame (Pandas data model) and plot the data.

## Assignment 1 Create a small program Jupyter

Start Anaconda and open the Jupyter NoteBook.

Your main page should look like this. Find you folder and directory by browsing your folders list.

📁 Jupyter	Quit Logout
Files Running Clusters	
Select items to perform actions on them.	
	Name & Last Modified File size
	2 måneder siden
	5 måneder siden
AndroidStudioProjects	9 måneder siden
ansel	et år siden
Contacts	2 måneder siden
Desktop	en time siden
Documents	2 måneder siden
Downloads	19 dage siden
Evernote	10 måneder siden
Favorites	2 måneder siden
Links	2 måneder siden
C Music	2 måneder siden
	et år siden
OneDrive - ErhvervsAkademi Sjælland	8 dage siden
PicStream	2 år siden
	2 måneder siden
Saved Games	2 måneder siden
Searches	2 måneder siden

Then create a new Jupyter notebook

Import the Pandas library simply by typing:

```
import pandas as pd
import matplotlib.pyplot as plt
```

In the next cell initialize a matrix as dictionary containing two lists; i.e. a two-dimensional array.

```
grades = {"Student":["Ole", "Richo", "Jens", "Lars"], "Grade": [2, 7, 12, 2]}
```

View the content

grades

Now, create a DataFrame that takes the dictionary as argument and view it on the screen.

df = pd.DataFrame(grades)
df

Your output should look like this:

StudentGradeØOle21Richo72Jens123Lars2

Finally, try to plot the data in 3 different ways one by one:

df.plot()
df.plot(x='Student', y='Grade')
plt.scatter(x=df.Student, y=df.Grade)

What did you get, explain.

At last, save the file in your repository Machine Learning/Solutions/PandaIntro

In [1]: import pandas as pd
In [2]: grades = {"Student":["Ole", "Richo", "Jens", "Lars"], "Grade": [2, 7, 12, 2]}
In [3]: df = pd.DataFrame(grades)
In [4]: print(df)