

Sprawozdanie

Analiza i Bazy Danych

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EAIIB AIR

Piątek 8:00

Zadanie 1.

```
(mateusztylec) → aibs conda list
# packages in environment at /opt/homebrew/Caskroom/miniforge/base/envs/mateusztylec:
#
# Name                                Version                                Build      Channel
appnope                               0.1.3                                pypi_0     pypi
argon2-cffi                           21.3.0                               pypi_0     pypi
argon2-cffi-bindings                  21.2.0                               pypi_0     pypi
asttokens                             2.0.8                                pypi_0     pypi
attrs                                  22.1.0                               pypi_0     pypi
backcall                              0.2.0                                pypi_0     pypi
beautifulsoup4                        4.11.1                               pypi_0     pypi
bleach                                 5.0.1                                pypi_0     pypi
bzip2                                  1.0.8                                h3422bc3_4  conda-forge
ca-certificates                       2022.9.24                            h4653dfc_0  conda-forge
cffi                                   1.15.1                               pypi_0     pypi
contourpy                             1.0.5                                pypi_0     pypi
cyclor                                0.11.0                               pypi_0     pypi
debugpy                               1.6.3                                pypi_0     pypi
decorator                             5.1.1                                pypi_0     pypi
defusedxml                             0.7.1                                pypi_0     pypi
entrypoints                           0.4                                  pypi_0     pypi
executing                             1.1.1                                pypi_0     pypi
fastjsonschema                        2.16.2                               pypi_0     pypi
fonttools                             4.37.4                               pypi_0     pypi
iniconfig                             1.1.1                                pypi_0     pypi
ipykernel                             6.16.0                               pypi_0     pypi
ipython                               8.5.0                                pypi_0     pypi
ipython-genutils                      0.2.0                                pypi_0     pypi
ipywidgets                            8.0.2                                pypi_0     pypi
jedi                                   0.18.1                               pypi_0     pypi
jinja2                                 3.1.2                                pypi_0     pypi
joblib                                 1.2.0                                pypi_0     pypi
jsonschema                            4.16.0                               pypi_0     pypi
jupyter                                1.0.0                                pypi_0     pypi
jupyter-client                        7.3.5                                pypi_0     pypi
jupyter-console                       6.4.4                                pypi_0     pypi
jupyter-core                          4.11.1                               pypi_0     pypi
jupyterlab-pygments                   0.2.2                                pypi_0     pypi
jupyterlab-widgets                    3.0.3                                pypi_0     pypi
kiwisolver                             1.4.4                                pypi_0     pypi
libffi                                 3.4.2                                h3422bc3_5  conda-forge
libsqlite                              3.39.4                               h76d750c_0  conda-forge
libzlib                                1.2.12                               h03a7124_4  conda-forge
markupsafe                             2.1.1                                pypi_0     pypi
matplotlib                             3.6.1                                pypi_0     pypi
matplotlib-inline                     0.1.6                                pypi_0     pypi
mistune                                2.0.4                                pypi_0     pypi
nbclient                               0.7.0                                pypi_0     pypi
nbconvert                             7.2.1                                pypi_0     pypi
nbformat                              5.6.1                                pypi_0     pypi
ncurses                                6.3                                  h07bb92c_1  conda-forge
nest-asyncio                           1.5.6                                pypi_0     pypi
notebook                              6.4.12                               pypi_0     pypi
numpy                                  1.23.3                               pypi_0     pypi
```

numpy	1.23.3	pypi_0	pypi
openssl	3.0.5	h03a7124_2	conda-forge
packaging	21.3	pypi_0	pypi
pandas	1.5.0	pypi_0	pypi
pandocfilters	1.5.0	pypi_0	pypi
parso	0.8.3	pypi_0	pypi
pexpect	4.8.0	pypi_0	pypi
pickleshare	0.7.5	pypi_0	pypi
pillow	9.2.0	pypi_0	pypi
pip	22.2.2	pyhd8ed1ab_0	conda-forge
pluggy	1.0.0	pypi_0	pypi
prometheus-client	0.14.1	pypi_0	pypi
prompt-toolkit	3.0.31	pypi_0	pypi
psutil	5.9.2	py310h8e9501a_0	conda-forge
ptyprocess	0.7.0	pypi_0	pypi
pure-eval	0.2.2	pypi_0	pypi
py	1.11.0	pypi_0	pypi
pycparser	2.21	pypi_0	pypi
pygments	2.13.0	pypi_0	pypi
pyparsing	3.0.9	pypi_0	pypi
pyrsistent	0.18.1	pypi_0	pypi
pytest	7.1.3	pypi_0	pypi
python	3.10.6	hae75cb6_0_cpython	conda-forge
python-dateutil	2.8.2	pypi_0	pypi
python-dotenv	0.21.0	pypi_0	pypi
python_abi	3.10	2_cp310	conda-forge
pytz	2022.4	pypi_0	pypi
pyzmq	24.0.1	pypi_0	pypi
q	2.7	pypi_0	pypi
qtconsole	5.3.2	pypi_0	pypi
qtpy	2.2.1	pypi_0	pypi
readline	8.1.2	h46ed386_0	conda-forge
scikit-learn	1.1.2	pypi_0	pypi
scipy	1.9.2	pypi_0	pypi
seaborn	0.12.0	pypi_0	pypi
send2trash	1.8.0	pypi_0	pypi
setuptools	65.4.1	pyhd8ed1ab_0	conda-forge
six	1.16.0	pypi_0	pypi
soupsieve	2.3.2.post1	pypi_0	pypi
stack-data	0.5.1	pypi_0	pypi
terminado	0.16.0	pypi_0	pypi
threadpoolctl	3.1.0	pypi_0	pypi
tinycss2	1.1.1	pypi_0	pypi
tk	8.6.12	he1e0b03_0	conda-forge
tomli	2.0.1	pypi_0	pypi
tornado	6.2	pypi_0	pypi
traitlets	5.4.0	pypi_0	pypi
tzdata	2022d	h191b570_0	conda-forge
watermark	2.3.1	pypi_0	pypi
wcwidth	0.2.5	pypi_0	pypi
webencodings	0.5.1	pypi_0	pypi
wheel	0.37.1	pyhd8ed1ab_0	conda-forge
widgetsnextension	4.0.3	pypi_0	pypi
xz	5.2.6	h57fd34a_0	conda-forge

Zadanie 2.

Link do repozytorium: https://github.com/mateusztylec/AiBD_Mateusz_Tylec

Zadanie 4.

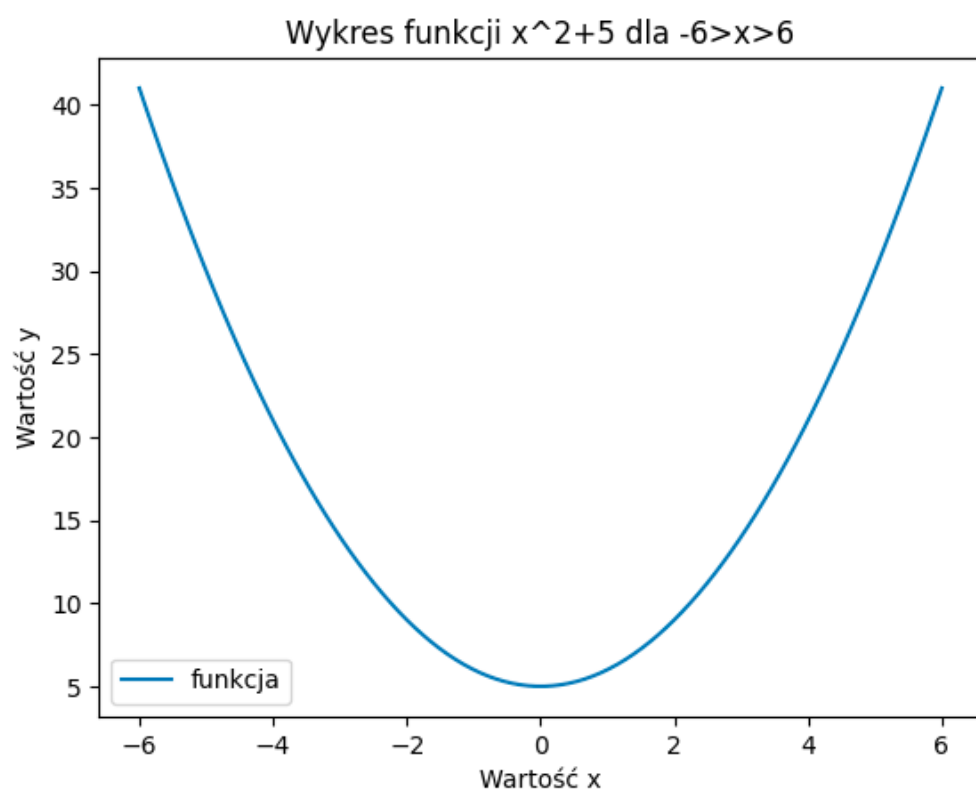
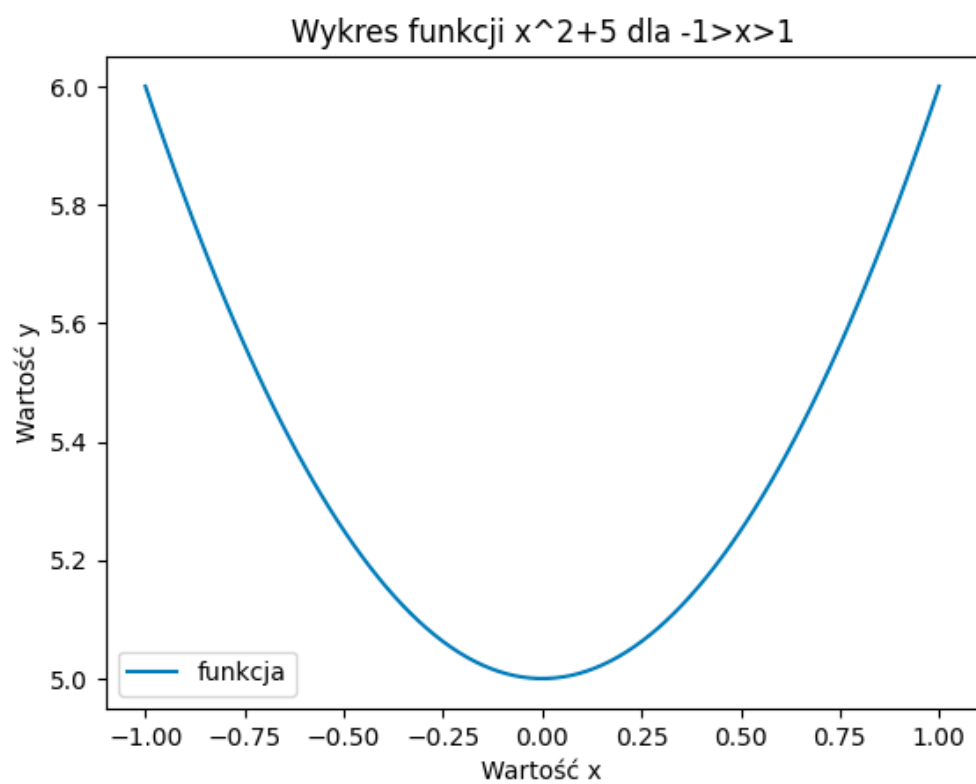
Do wykonania zadania 4 skorzystałem z dwóch plików (main.py oraz notebook.ipynb)

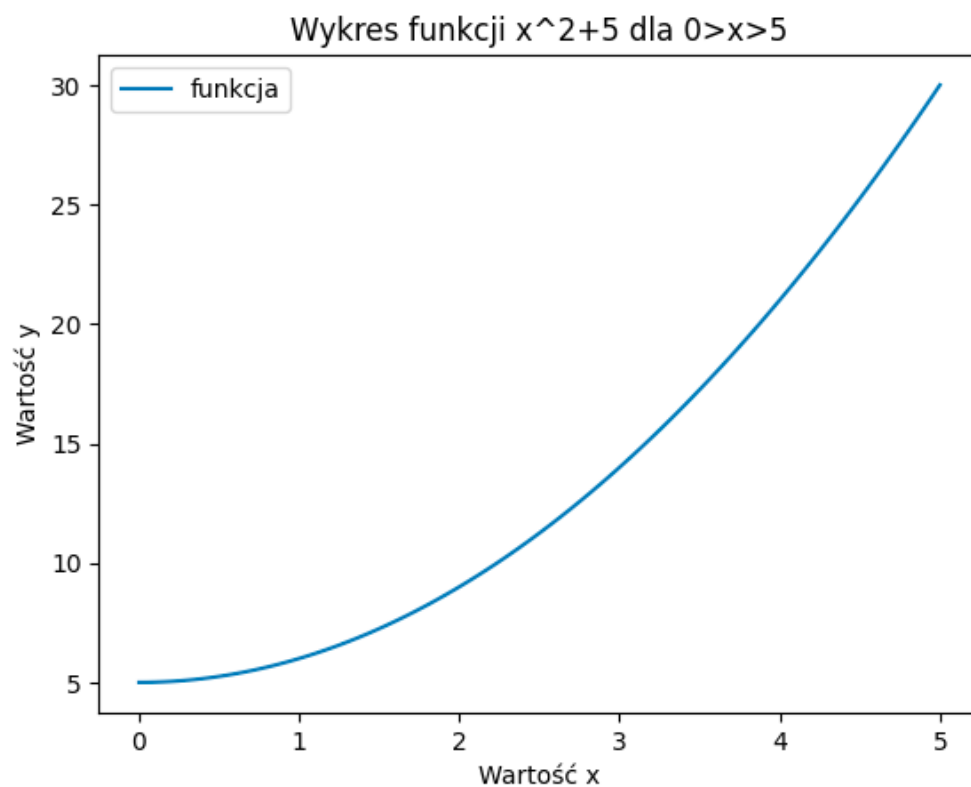
\\ main.py \\

```
def fun1(x: float):  
    return x**2+5
```

\\ notebook.ipynb \\

```
import main  
import matplotlib.pyplot as plt  
import numpy as np  
import pandas as pd  
  
def square_function(x_start, x_stop):  
    x = np.linspace(x_start,x_stop,100)  
    result = []  
    for x_ in x:  
        result.append(main.fun1(x_))  
    plt.figure()  
    plt.plot(x, result)  
    plt.title(f"Wykres funkcji  $x^2+5$  dla {x_start}>x>{x_stop}")  
    plt.xlabel("Wartość x")  
    plt.ylabel("Wartość y")  
    plt.legend(["funkcja"])  
square_function(-1,1)  
square_function(-6,6)  
square_function(0,5)
```





```
d = {'name': ['mateusz', 'tomasz', 'artur', 'jacek', 'jonasz'],
'surname': ['tylec', 'kowalski', 'nowak', 'kaczuska', 'pies'], 'age': [21, 22, 23, 34, 44], 'sex': ['m', 'm', 'm', 'm', 'm']}
df = pd.DataFrame(data=d, columns=('name', 'surname', 'age', 'sex'))

df.info()
df.describe()
df.head(3)
```

```
<class 'pandas.core.frame.DataFrame'>  
RangeIndex: 5 entries, 0 to 4  
Data columns (total 4 columns):  
#   Column      Non-Null Count  Dtype  
---  -  
0   name        5 non-null      object  
1   surname     5 non-null      object  
2   age         5 non-null      int64  
3   sex         5 non-null      object  
dtypes: int64(1), object(3)  
memory usage: 288.0+ bytes
```

	name	surname	age	sex
0	mateusz	tylec	21	m
1	tomasz	kowalski	22	m
2	artur	nowak	23	m