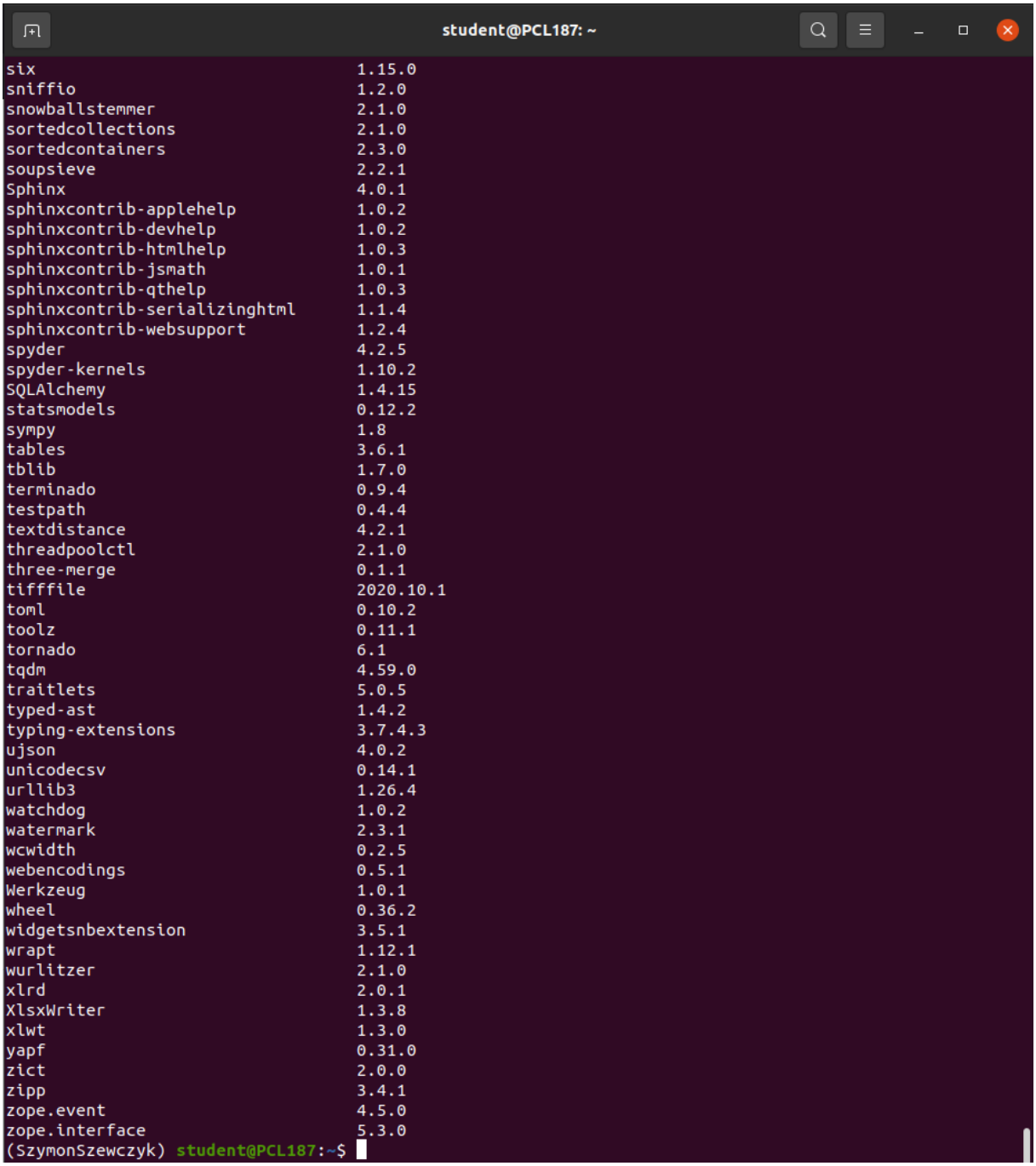
Analiza i Bazy Danych

Laboratorium 1

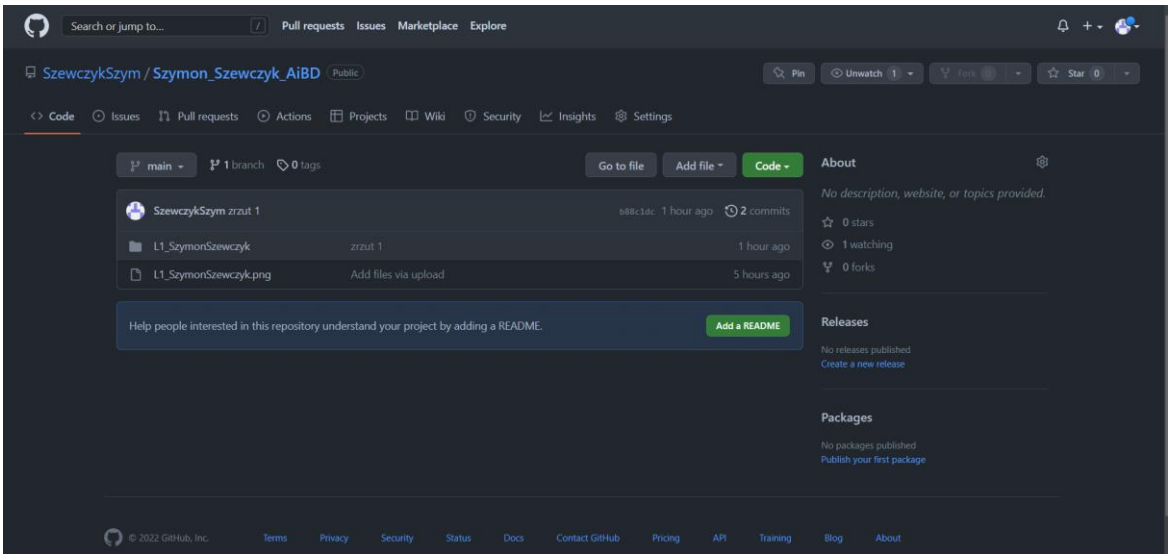
Szymon Szewczyk gr.7

Zadanie 1.



Rysunek 1 Wszystkie zainstalowane pakiety

Zadanie 2.



Rysunek 2 Repozytorium na githubie z przesłanymi plikami

Zadanie 3.

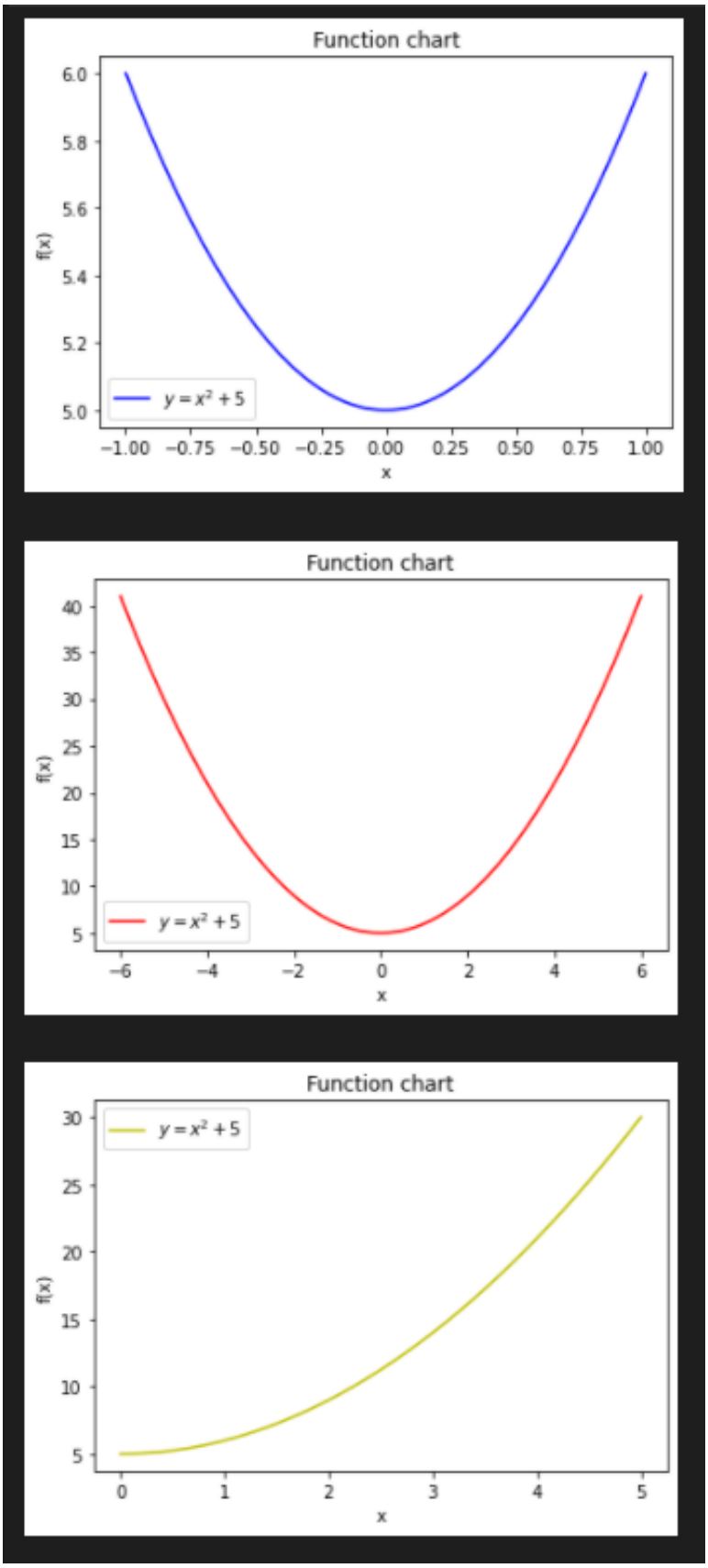
Wykonałem kod przedstawiony na rysunku 3.

```python
import numpy as np
import matplotlib.pyplot as plt

def function(x):
    return x**2 + 5

x_1 = np.linspace(-1, 1, 100)
x_2 = np.linspace(-6, 6, 100)
x_3 = np.linspace(0, 5, 100)
y_1 = function(x_1)
y_2 = function(x_2)
y_3 = function(x_3)

plt.plot(x_1, y_1, 'b', label = r"$y = x^2 + 5$")
plt.title("Function chart")
plt.xlabel("x")
plt.ylabel("f(x)")
plt.legend()
plt.show()

plt.plot(x_2, y_2, 'r', label = r"$y = x^2 + 5$")
plt.title("Function chart")
plt.xlabel("x")
plt.ylabel("f(x)")
plt.legend()
plt.show()

plt.plot(x_3, y_3, 'y', label = r"$y = x^2 + 5$")
plt.title("Function chart")
plt.xlabel("x")
plt.ylabel("f(x)")
plt.legend()
plt.show()
```

✓ 0.4s

Rysunek 3 kod zadania 3

Wyniki zostały przedstawione na rysunku 4



Rysunek 4 Wykresy funkcji z zadania 3

Zadanie 4

```
data = pd.DataFrame(np.array([['Steve', 'Jobs', 61, 'male'], ['Elon', 'Musk', 51, 'male'], ['Kanye', "West", 45, 'male'],
                              ['Angela', 'Merkel', 68, 'female'], ['Barack', 'Obama', 61, 'male']]), columns=['name', 'surname', 'age', 'sex'])

data.info(verbose=True)
```

✓ 0.8s

```
<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      object
 3   sex      5 non-null      object
dtypes: object(4)
memory usage: 288.0+ bytes
```

```
data.describe()
```

✓ 0.7s

	name	surname	age	sex
count	5	5	5	5
unique	5	5	4	2
top	Steve	Jobs	61	male
freq	1	1	2	4

```
data.head(3)
```

✓ 0.8s

	name	surname	age	sex
0	Steve	Jobs	61	male
1	Elon	Musk	51	male
2	Kanye	West	45	male

Rysunek 5 Kod wraz z wynikami