

Function Plotter

- This project is for Master Micro Company.
- Language: Python
- Development environment: PyCharm
- Project type: Desktop Application

Aim

plots arbitrary user-entered function.

Procedure Details

1. Write a Python GUI program that plots an arbitrary user-entered function.
2. Take a function of x from the user, e.g., $5x^3 + 2x$.
3. Take min and max values of x from the user.
4. The following operators must be supported: $+$ $-$ $/$ $*$ $^$ \sin \cos \tan .
5. Apply appropriate input validation to the user input.
6. Display messages to the user to explain any wrong input.

Output

fx Function Plotter

Enter equation

Enter min value

Enter max value

Plot

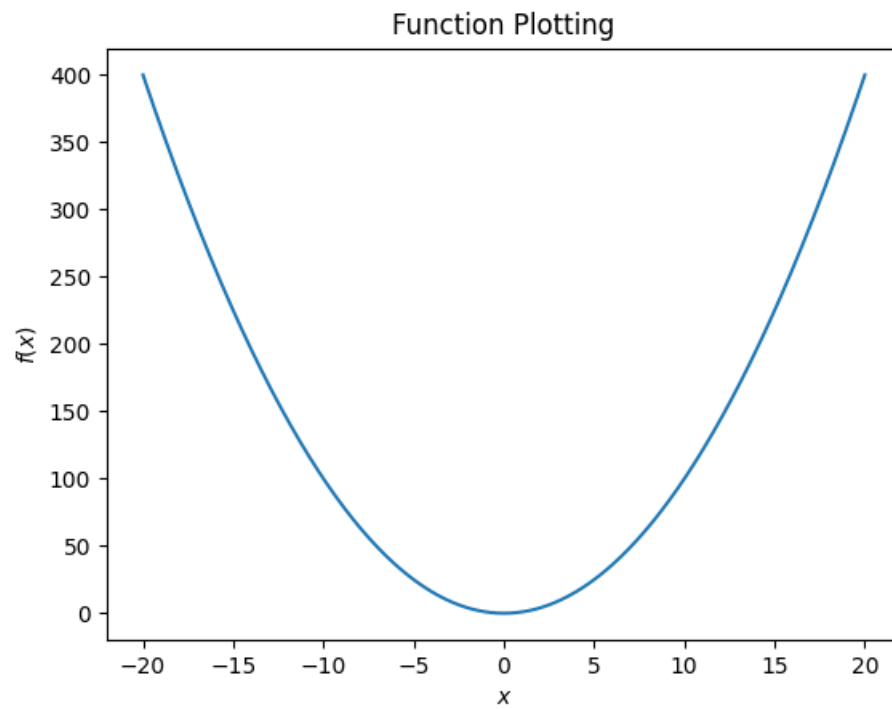
fx Function Plotter

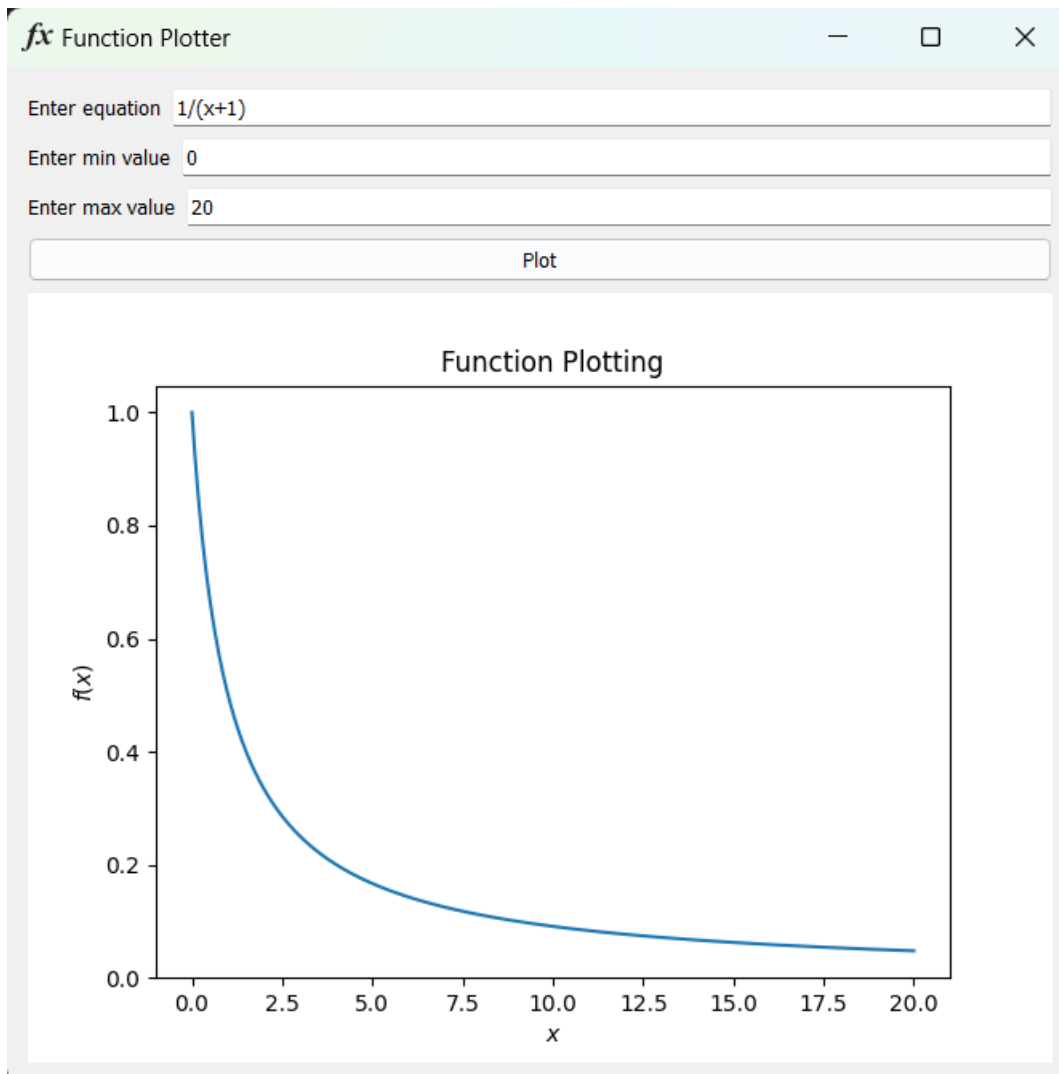
Enter equation

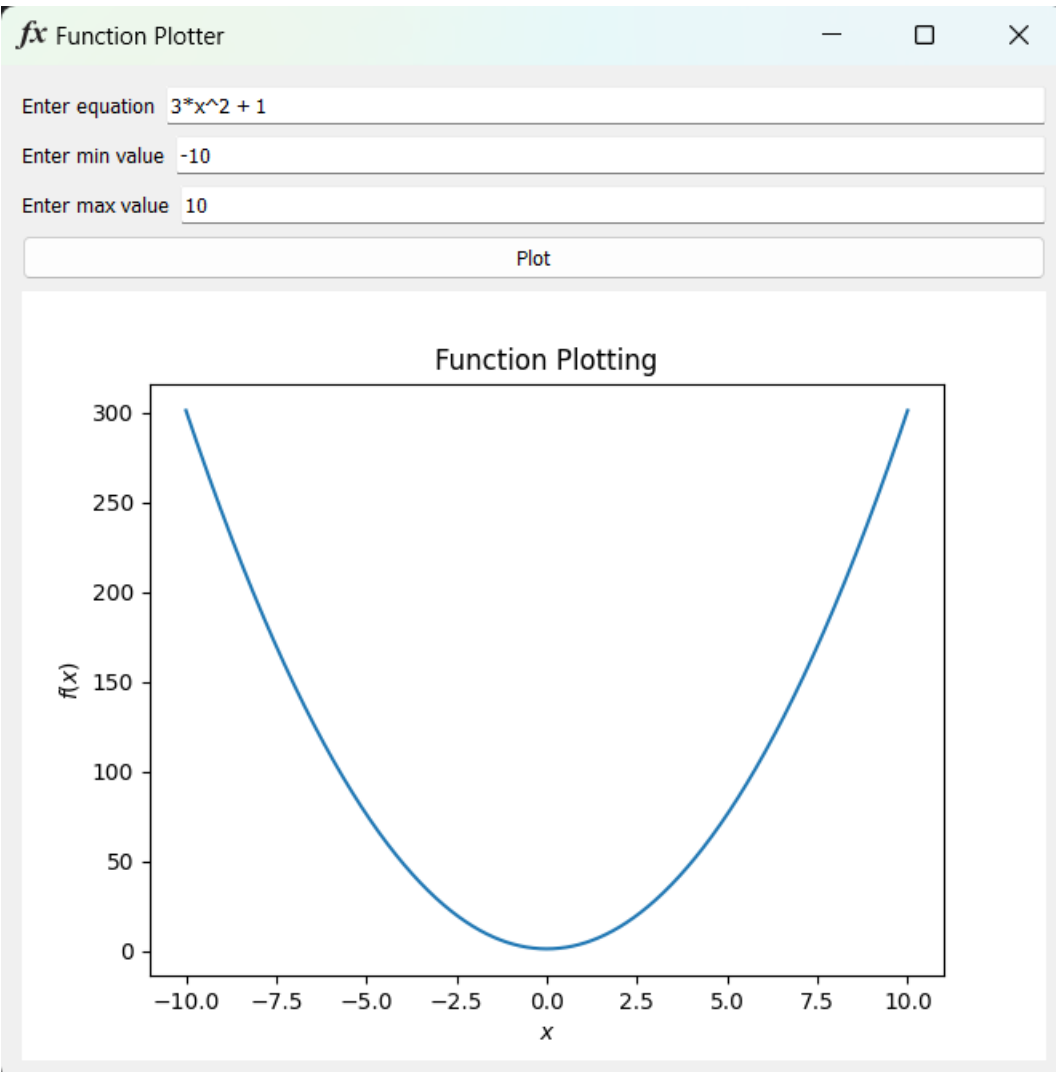
Enter min value

Enter max value

Plot







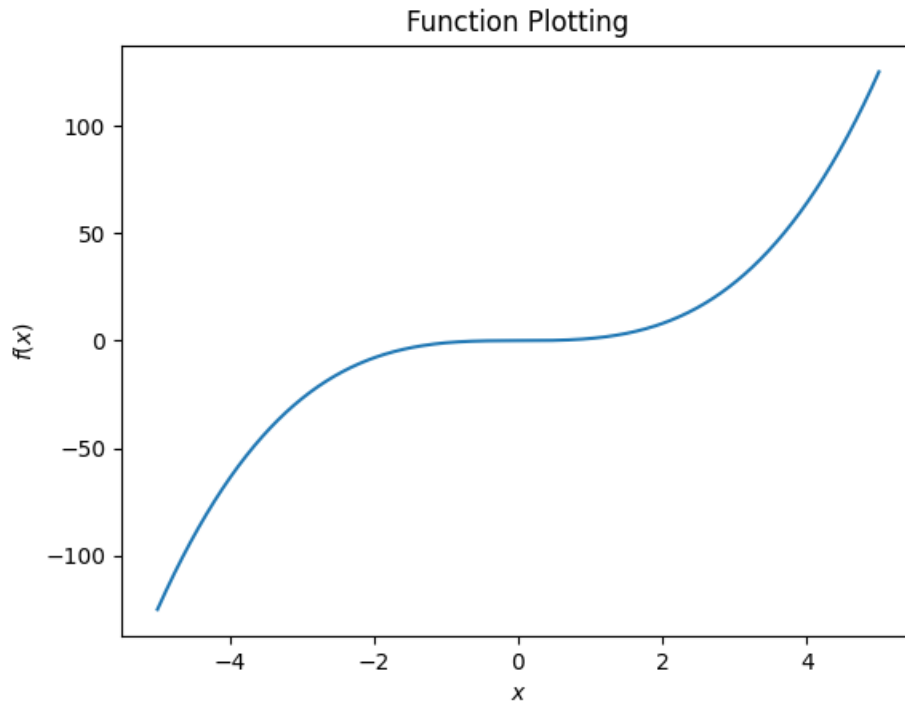
fx Function Plotter

Enter equation

Enter min value

Enter max value

Plot



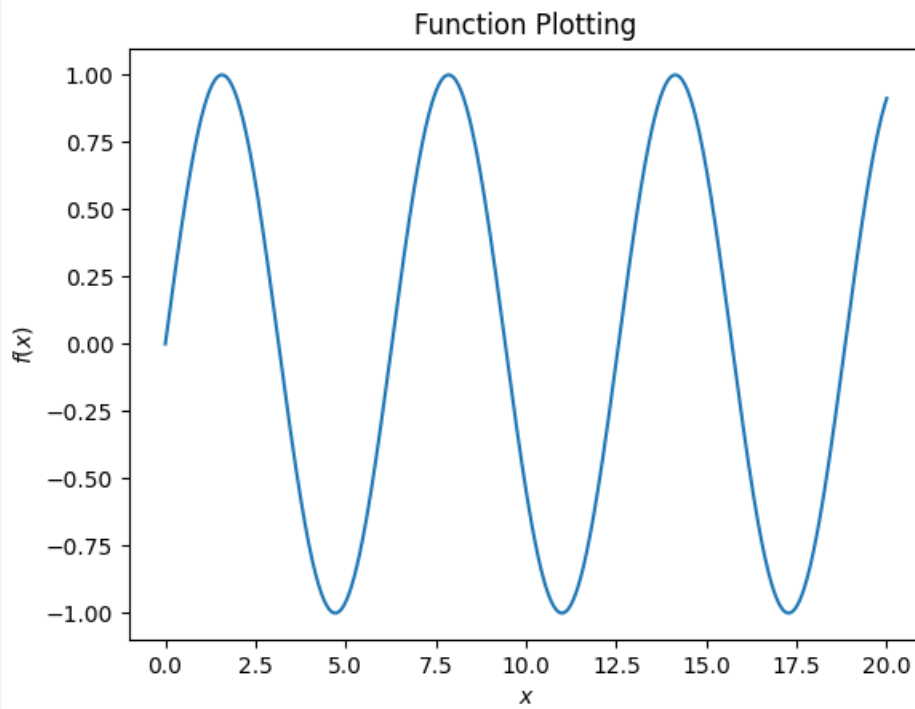
fx Function Plotter

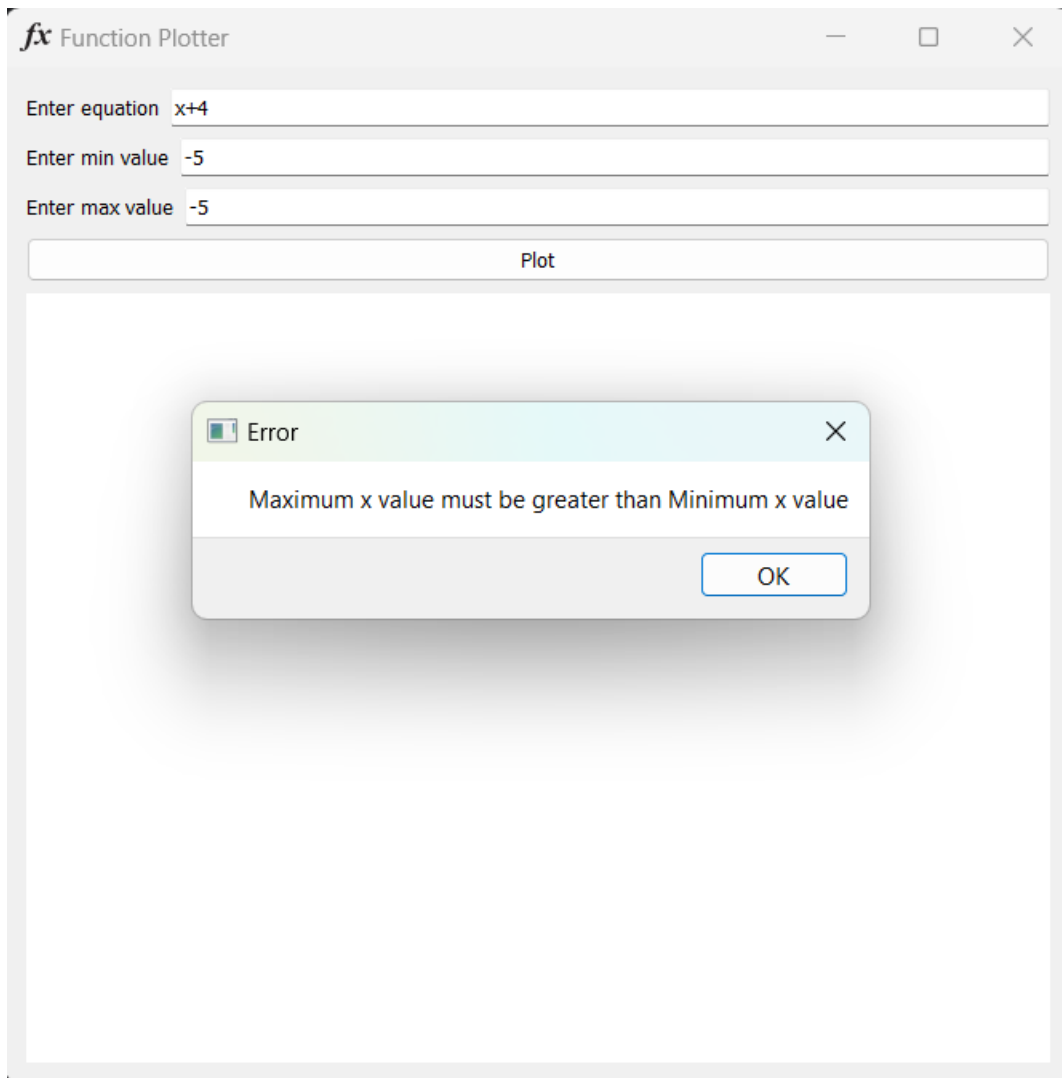
Enter equation

Enter min value

Enter max value

Plot





fx

Function Plotter

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□

×

Enter equation

x+4

Enter min value

5

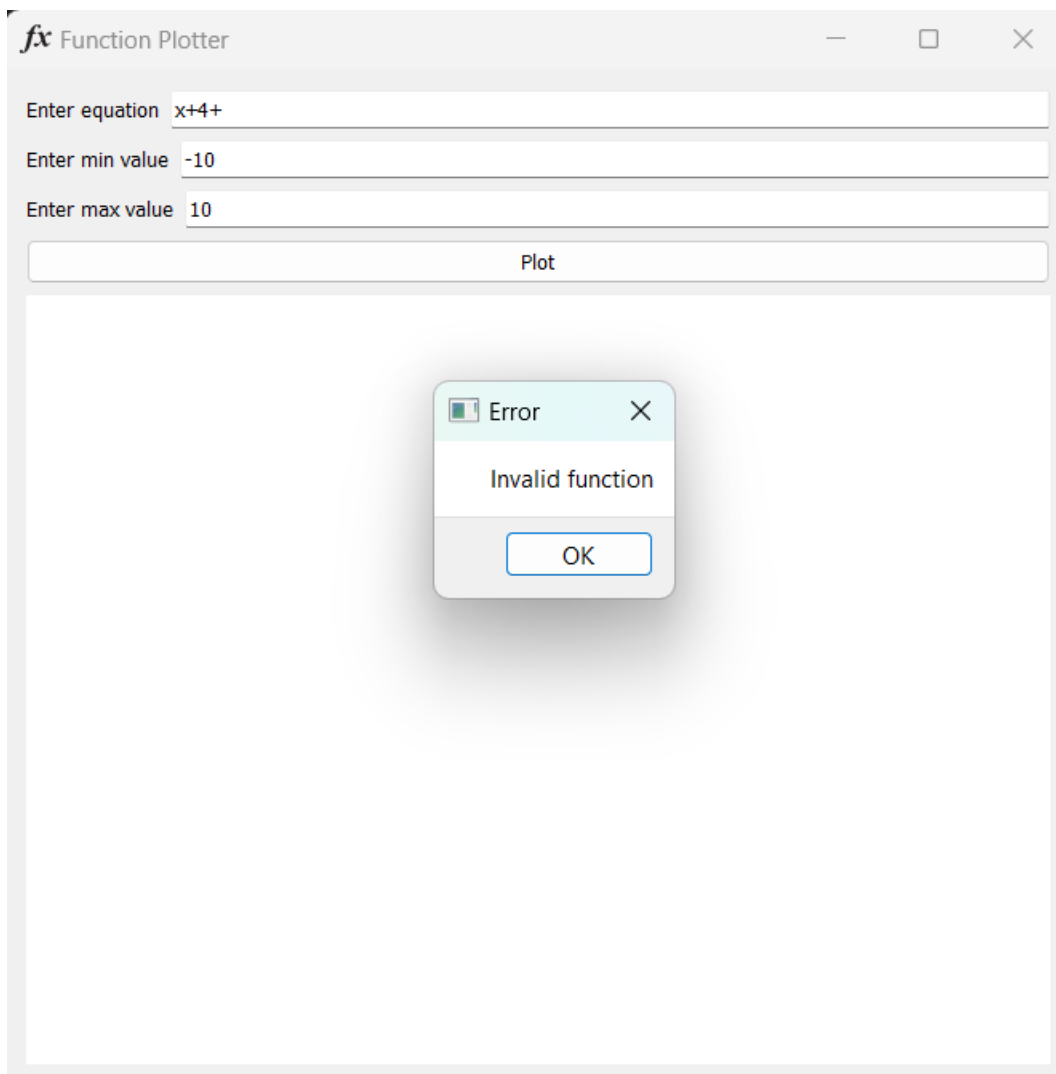
Enter max value

Plot

Error

Please enter Maximum x

OK



[illegible]

fx

Function Plotter

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□

×

Enter equation

x*4 + 2

Enter min value

a

Enter max value

10

Plot

Error

Minimum x value must be a number

OK

fx Function Plotter

Enter equation

Enter min value

Enter max value

Plot

Error

Please enter Maximum x

OK

Requirements

- App Requirements

```
pip install PySide2
pip install numpy
pip install matplotlib
```

- Testing Requirements

```
pip install pytest
pip install pytest-qt
```

Usage

- Run [app.py](#) file.

```
python app.py
```

- In case of testing, run [test.py](#) file.

```
pytest test_app.py
```