TurtleGraph 0.1 Spec

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1 Overview

TurtleGraph is a program that draws plots of functions.

This spec is incomplete. Please report any errors through the Issues system on github.

Note: This spec has not yet been approved by the team. Please review it and inform the author whether you have any suggestions/issues.

2 Scenarios

The following are a number of possible use-cases for TurtleGraph. If you happen to know more, please add them to this document and inform the author.

2.1 Scenario: Alice

When doing her algebra homework, Alice occasionally needs to plot the function she is working with. She turns on TurtleGraph and inputs the function she currently wants to see.

3 Goals

The goals for this version are:

- The interface should allow for the input of one function.
- The position of the axes and the scale must be configurable.
- Functions must be able to contain multiplication, division, addition, subtraction, exponentiation, parentheses, and one variable (x).
- After a graph is plotted, it should be possible to plot a second one on a clean canvas without restarting the program.
- At release time, there should be no open bug reports.[1]

A number of features are unrealistic to achieve for version 0.1. These are labelled 'non-goals', and the following are currently known:

- There is no need to allow for more than one graph.

[1] Work on 0.2 should not begin until 0.1 is released.

- There is no need for functions that find the roots or top of the graph, or for calculating the area under it.
- The speed is not to be taken into account; optimisations should be discarded in favour of readibility.

4 Interface

The interface should resemble 4, and must at least provide that functionality. It may also have a menubar, which would allow the user to quit the program, display an About dialogue, or display a help dialogue.

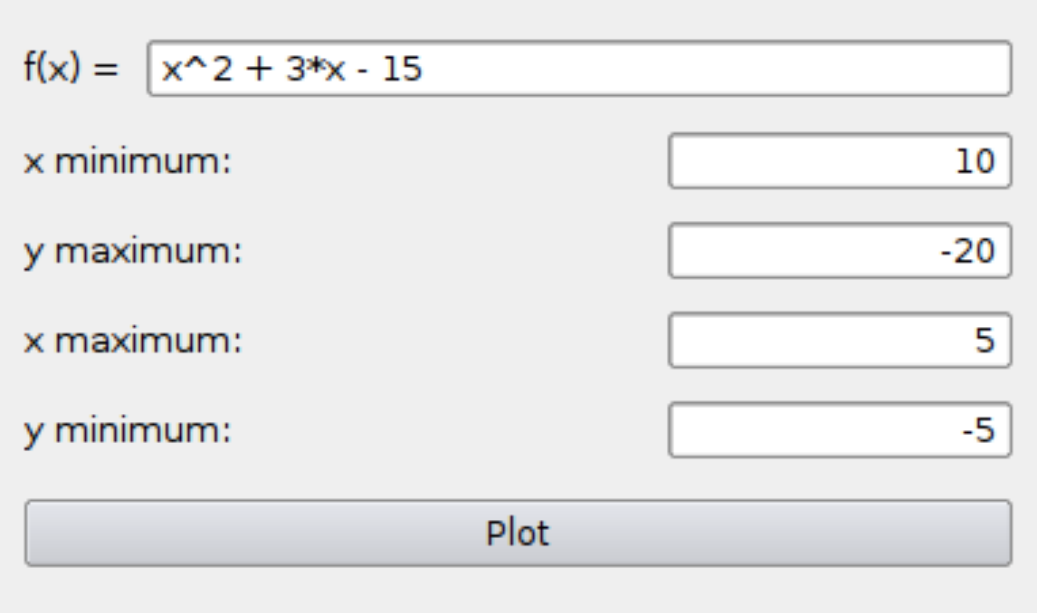

Figure 1: An approximation of the interface.