LinearFunction

Script Documentation

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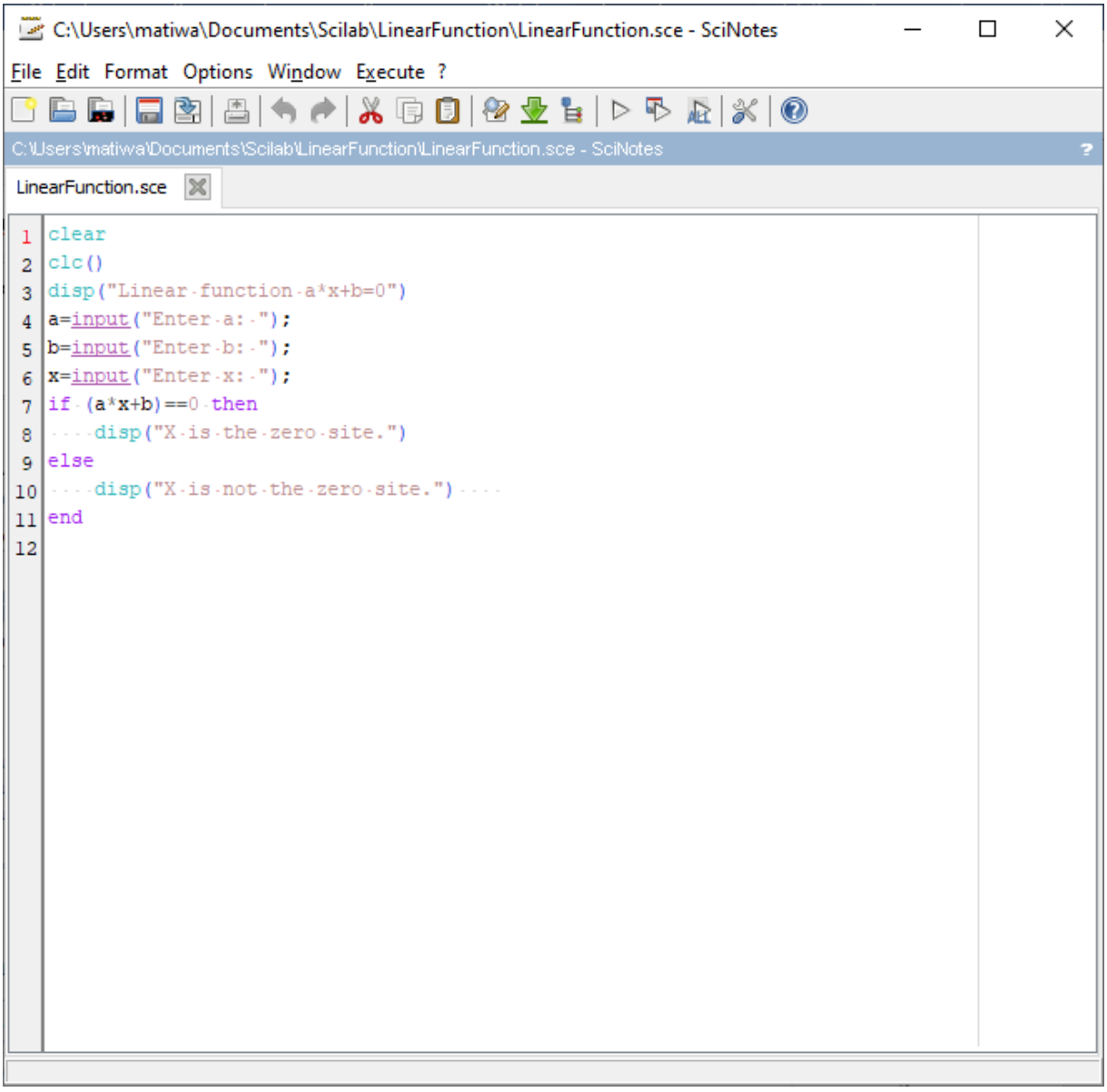
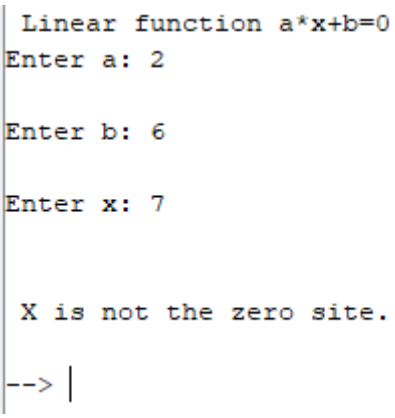
Introduction

This Scilab script file documentation includes: description of the script operation, what is needed for use, used algorithms, description of the source code. This script checks if a given X is the zero of a linear function.

Describing of the script's operation



Drawing 1: Script content [own study]



Drawing 2: The contents of the Scilab console window [own study]

Running a script starts Scilab, then Applications and Scinotes, which is used to edit scripts. Then select on the menu bar, select Execute and Save and Execute (shortcut F5) or Save and Execute all files (shortcut Ctrl + F5).

In order to understand how the script works, it is worth following an example. We have:

a = 2, b = 6, x = 7

$0 = 2 \cdot 7 + 6$

$0 = 14 + 6$

$0 = 20 \Rightarrow$ Contradition!

X is not the zero site.

What is needed for use?

The script requires Scilab and a Windows operating system.

Algorithm used

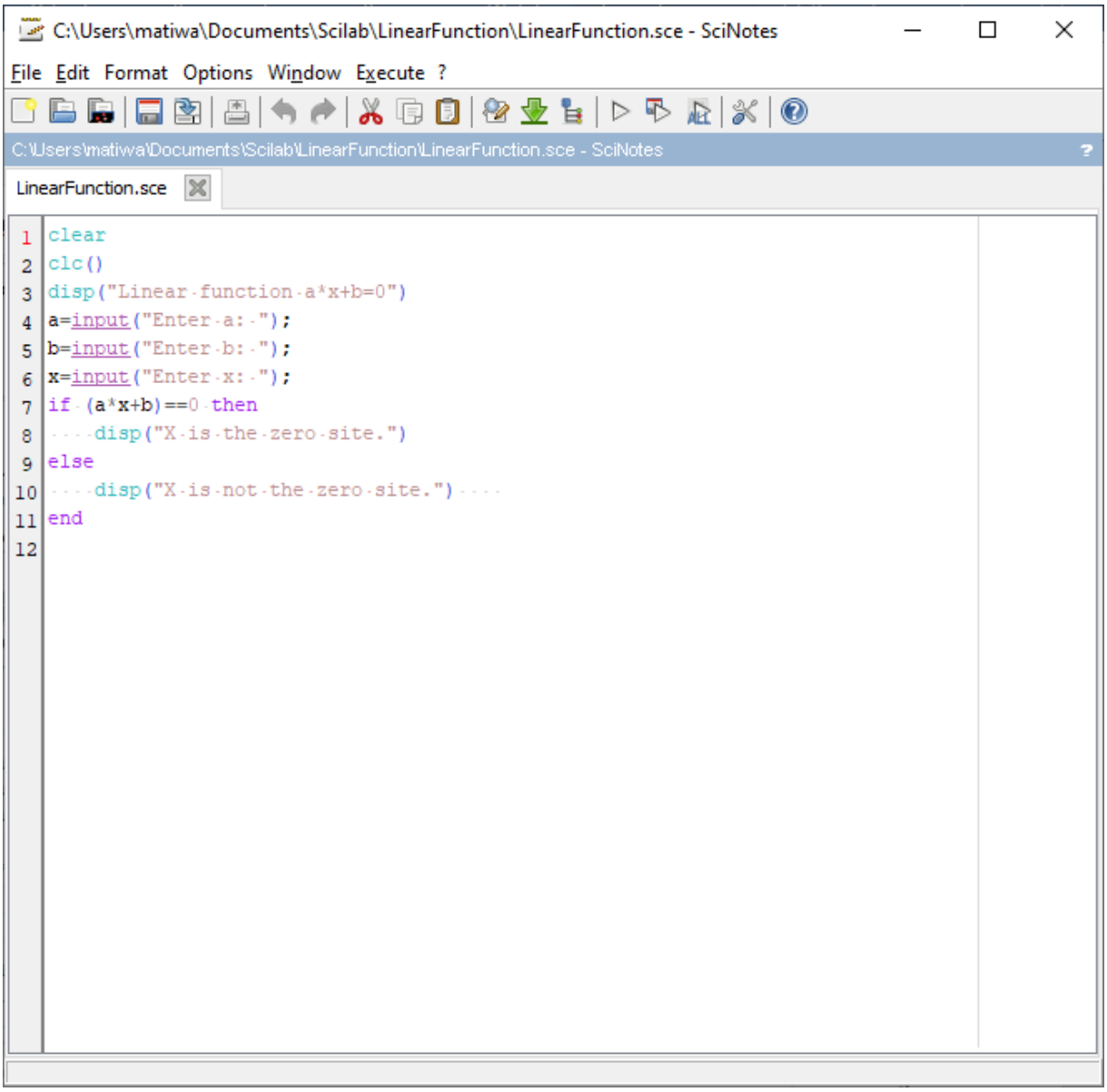
The user enters the variables a, b and x from the general formula of the linear function, i.e.:

$$y = ax + b$$

If the value of the expression is zero, it is guaranteed that the given X is zero.

Interface description

Running the code requires Scilab.



Drawing 3: Scilab graphical interface [own study]

Source code description

The script was made in the Scilab script language, in the Scilab 6.0.2 programming environment. All work was done on the Windows 10 operating system. The script's source code looks like this.

```
clear
clc()
disp("Linear function a*x+b=0")
a=input("Enter a: ");
b=input("Enter b: ");
x=input("Enter x: ");
if (a*x+b)==0 then
   disp("X is the zero site.")
else
   disp("X is not the zero site.")
end
```

Listing 1: Source code [own study]

List of drawings

List of listings