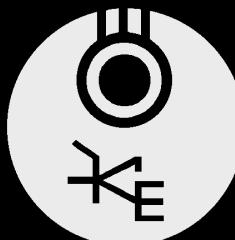


Міністерство освіти і науки України  
Державний вищий навчальний заклад  
“Національний гірничий університет”



КАФЕДРА ЕЛЕКТРОПРИВОДА

Кафедра електропривода

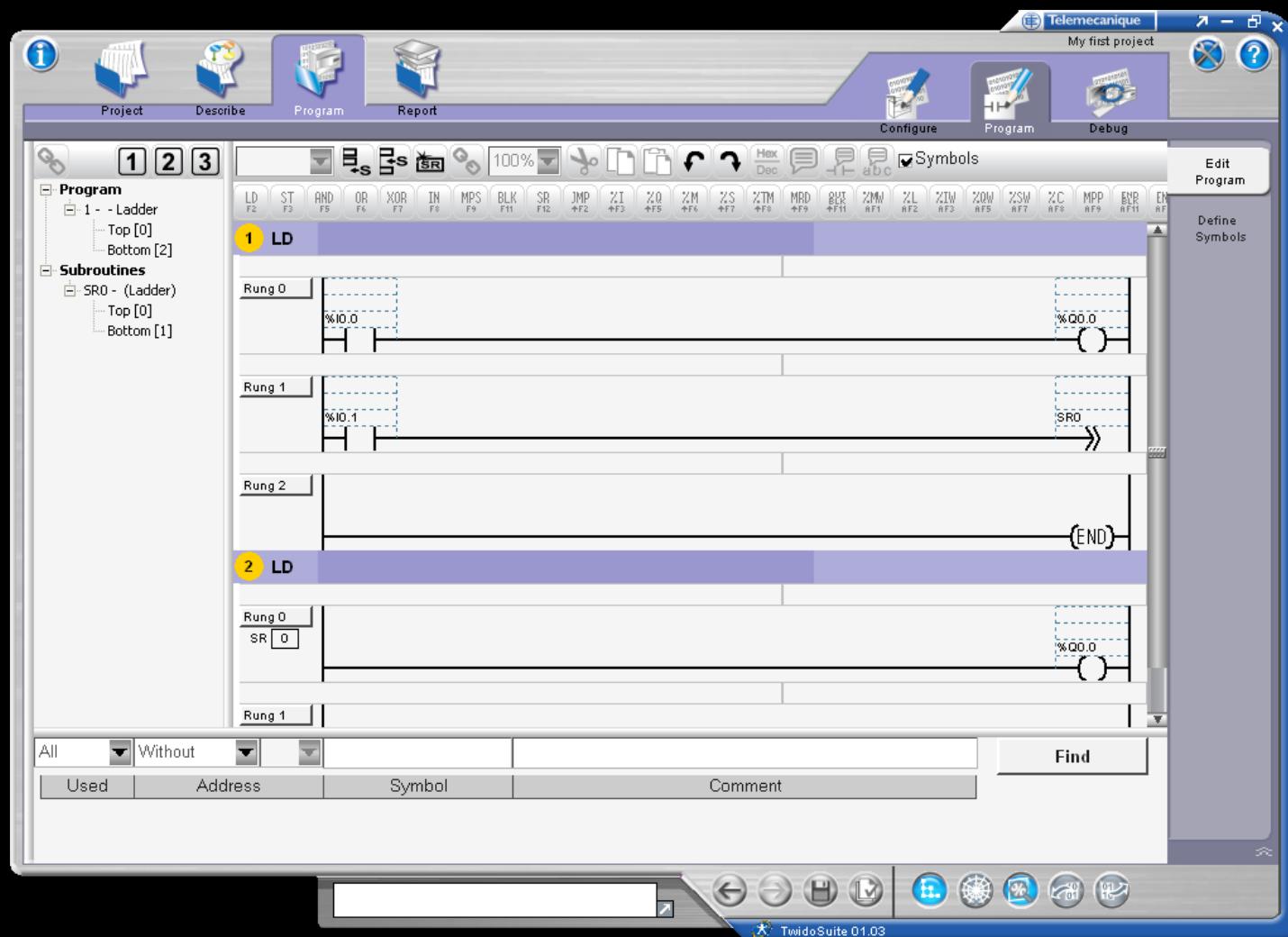
Авторизований навчальний центр “Schneider Electric”

Розробив: Яланський О.А., доцент кафедри електропривода

м. Дніпропетровськ

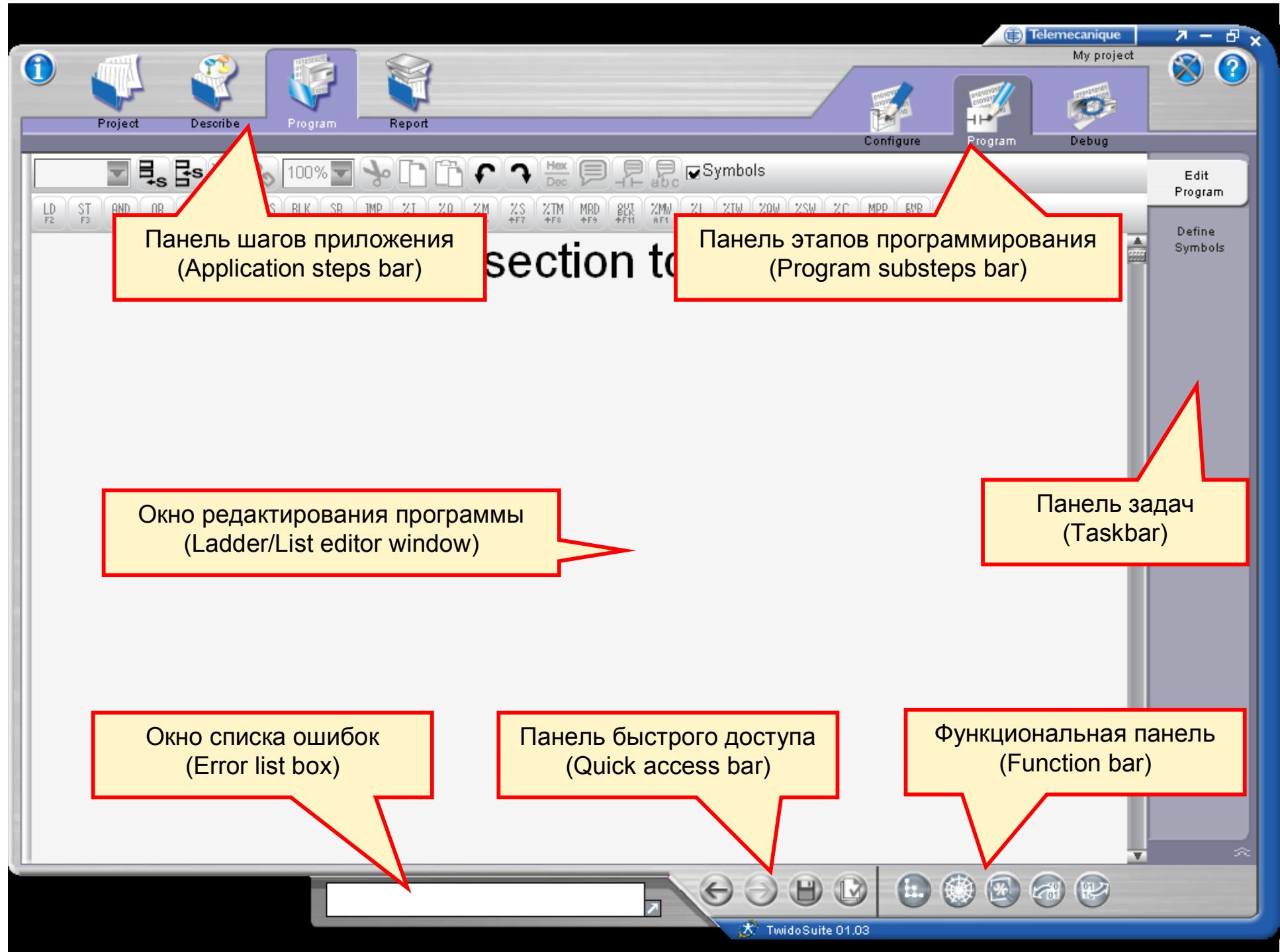
2007 - 2012

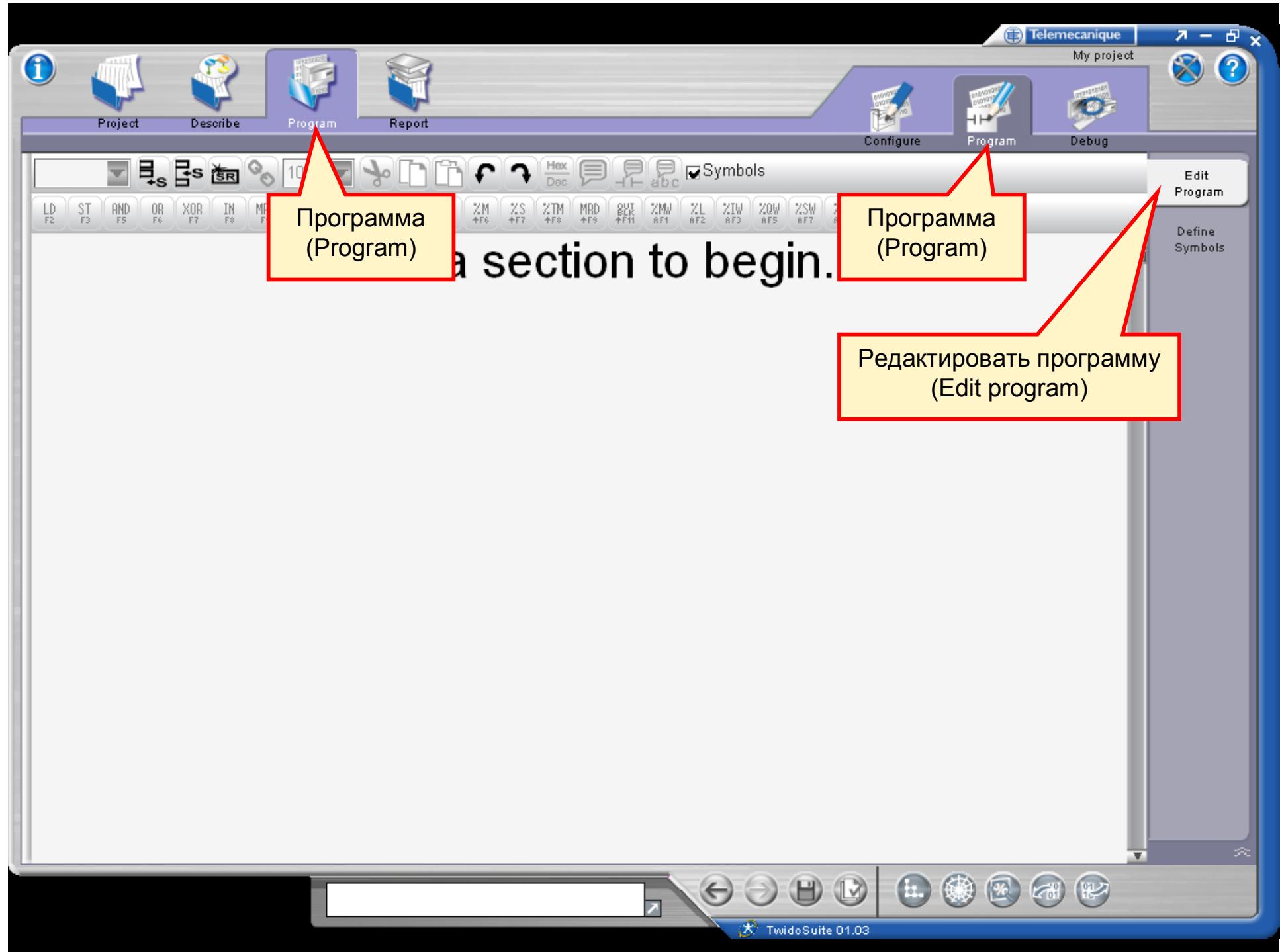
# Программирование в Twido Suite

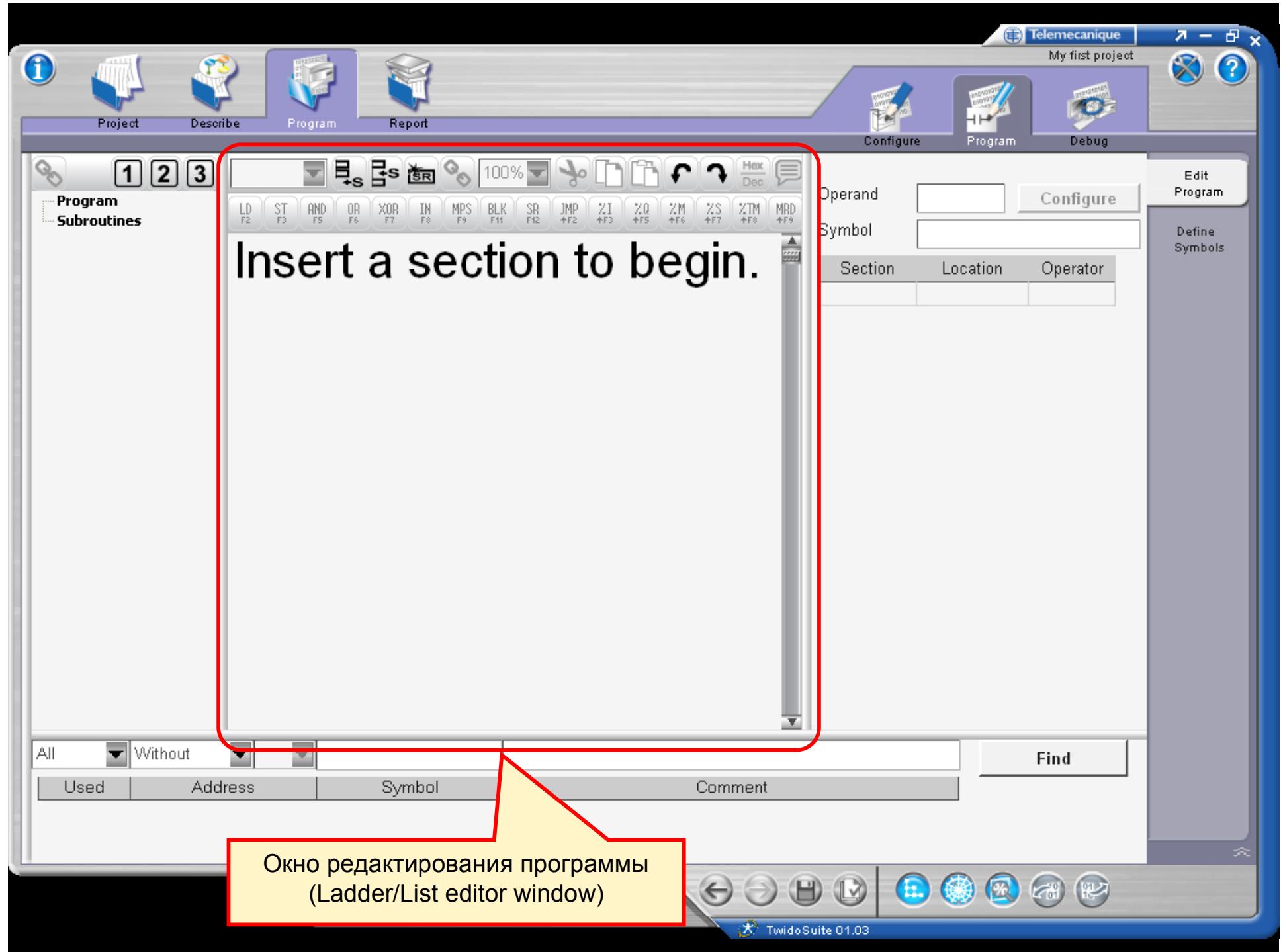


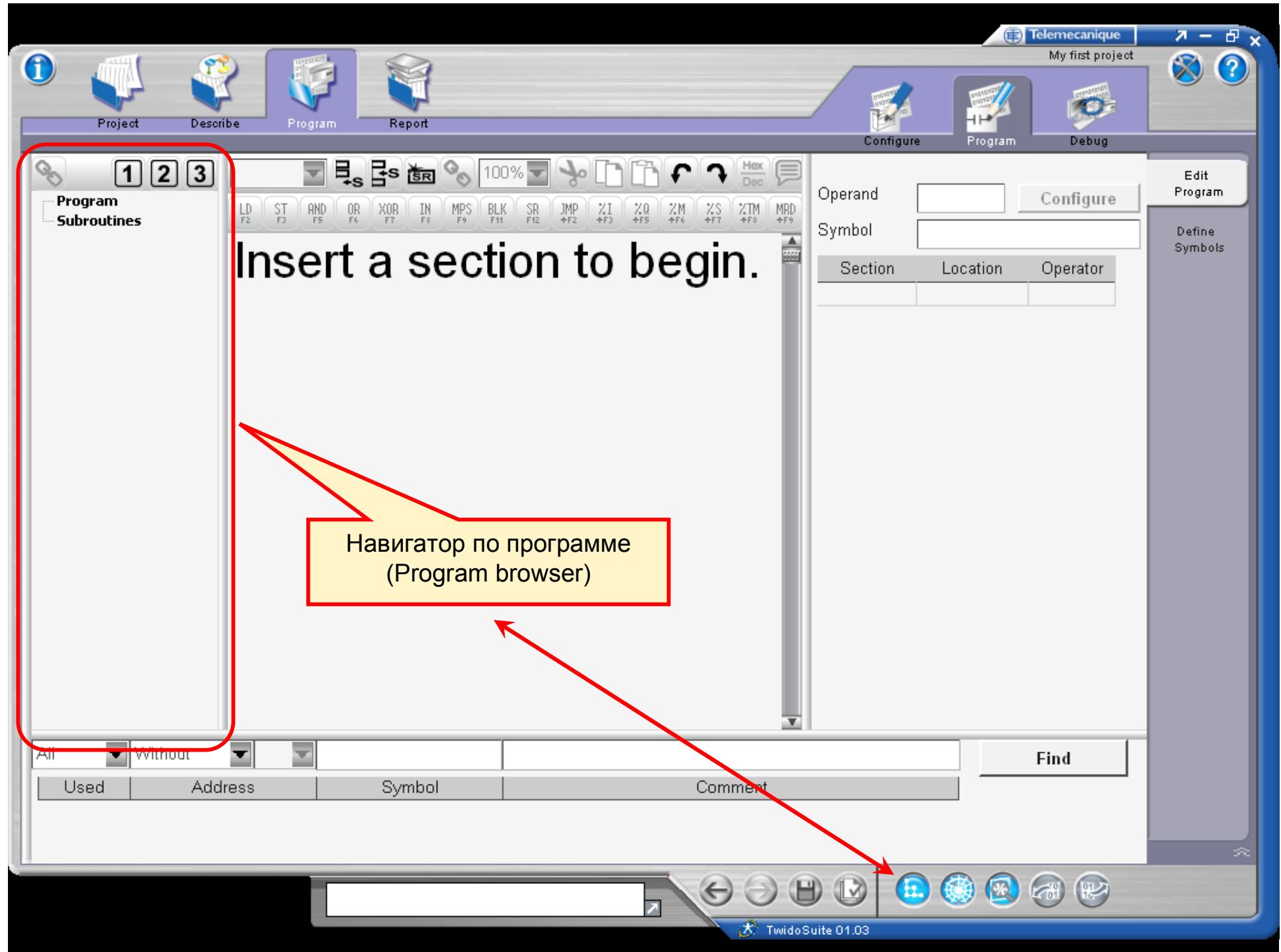
Режим программирования  
("Programming" Mode)

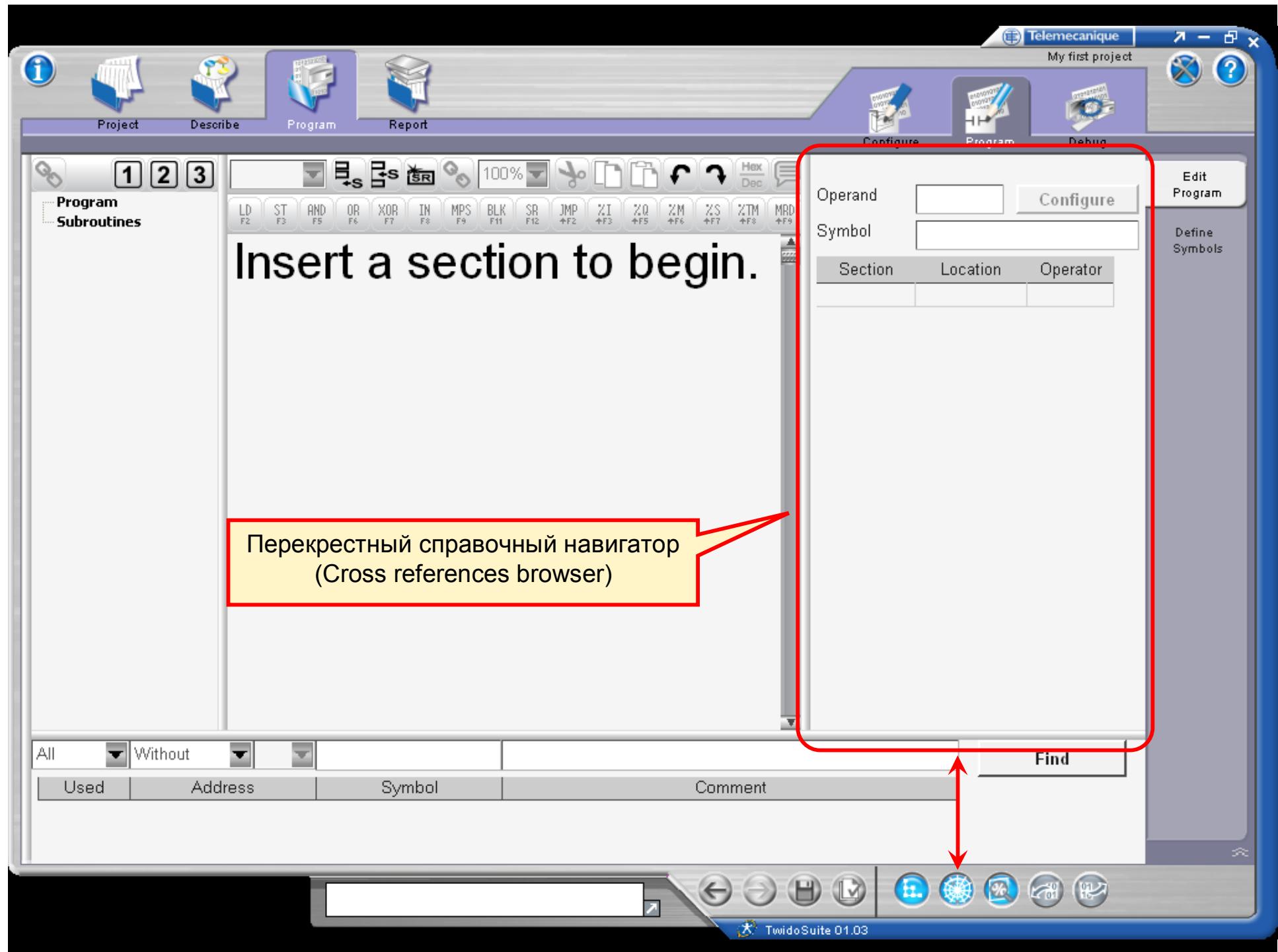


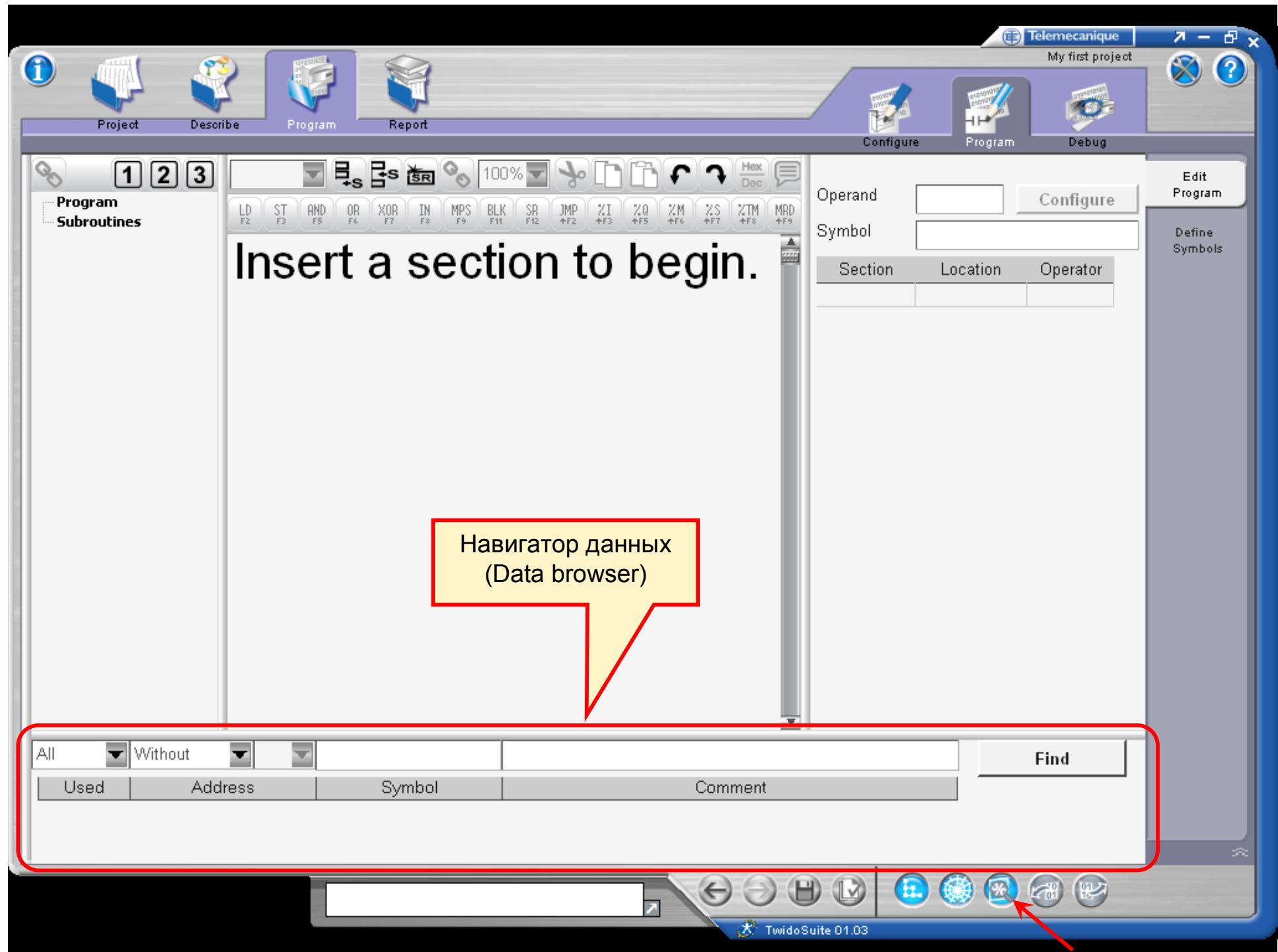


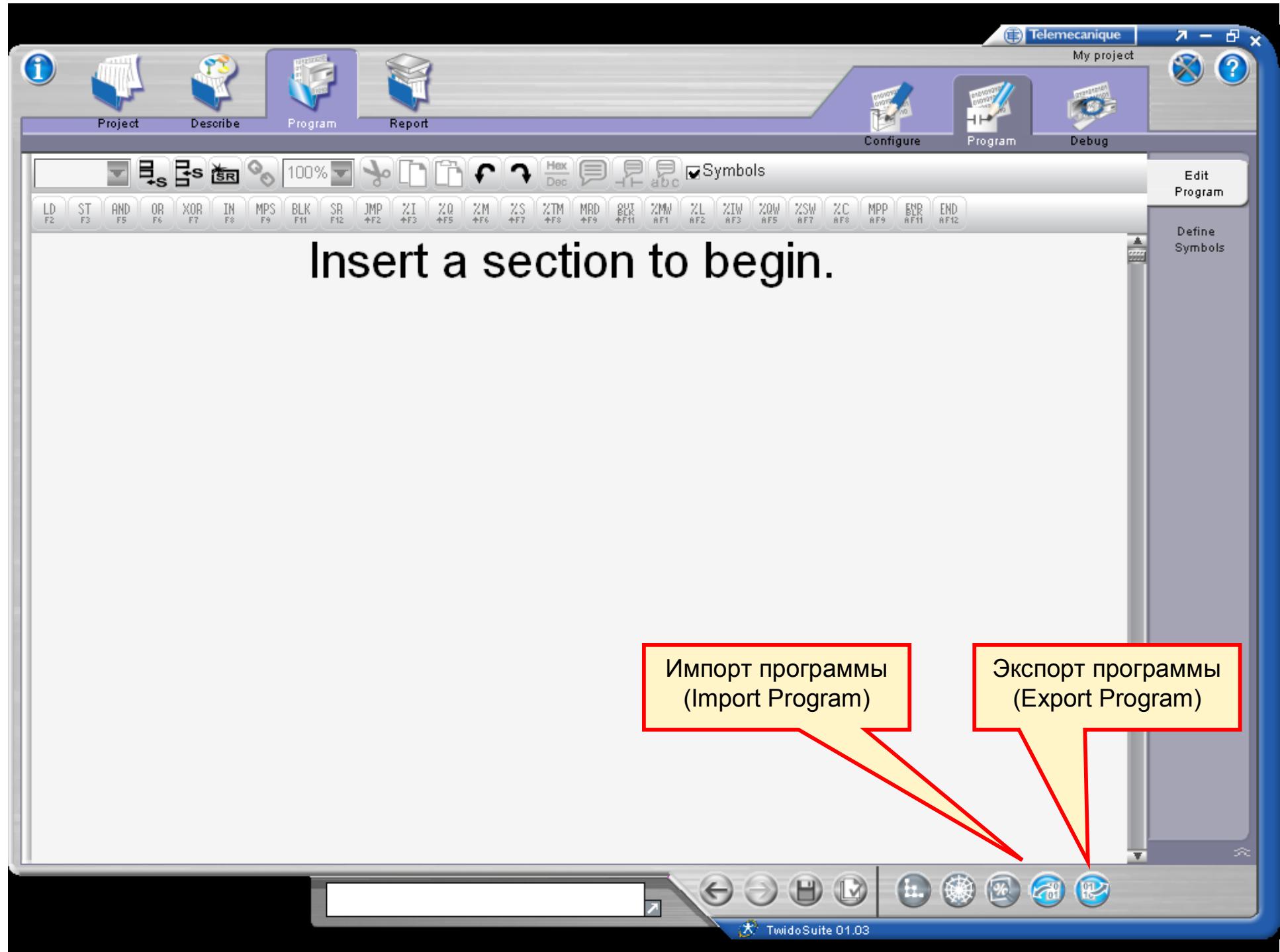




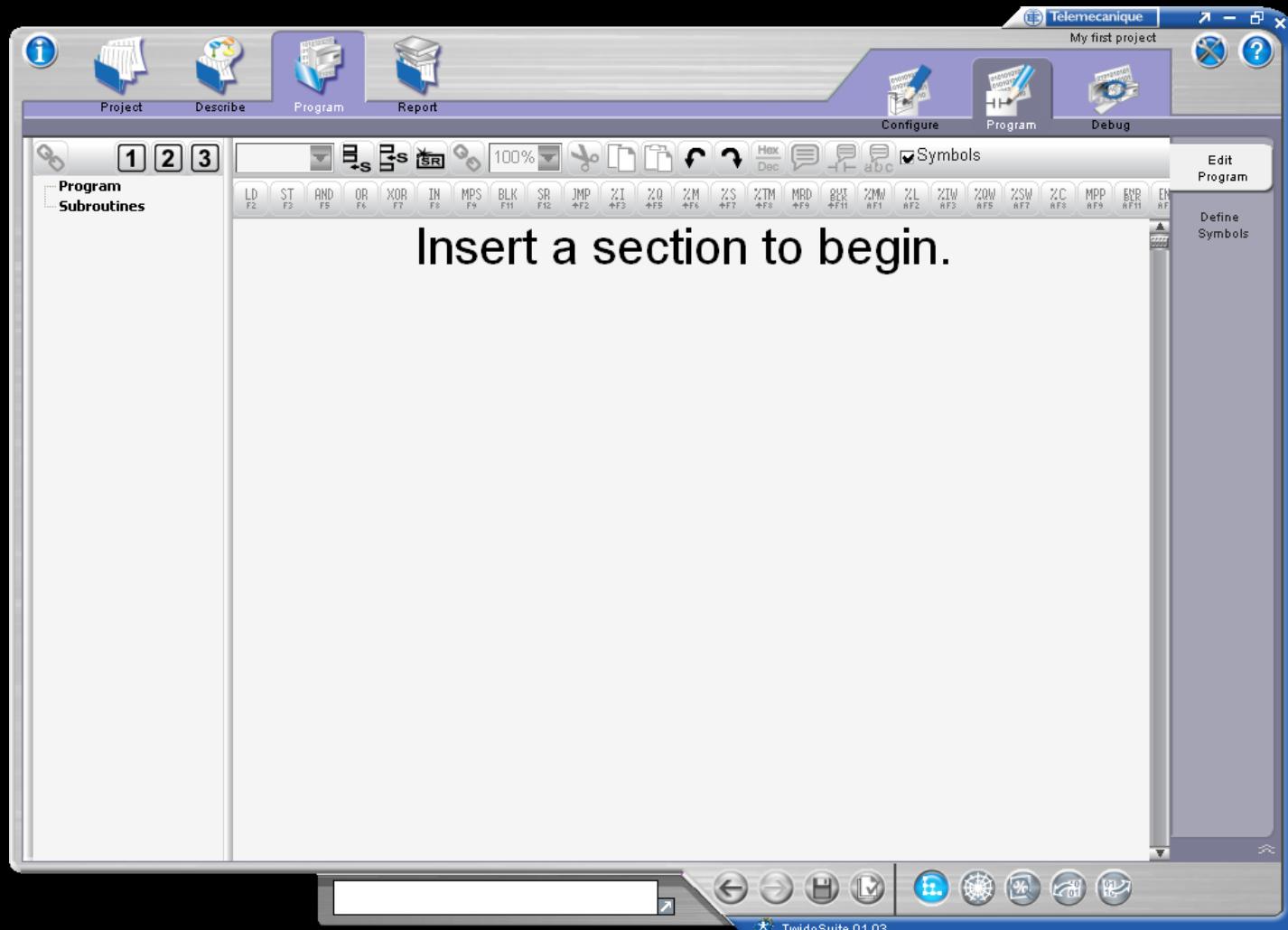


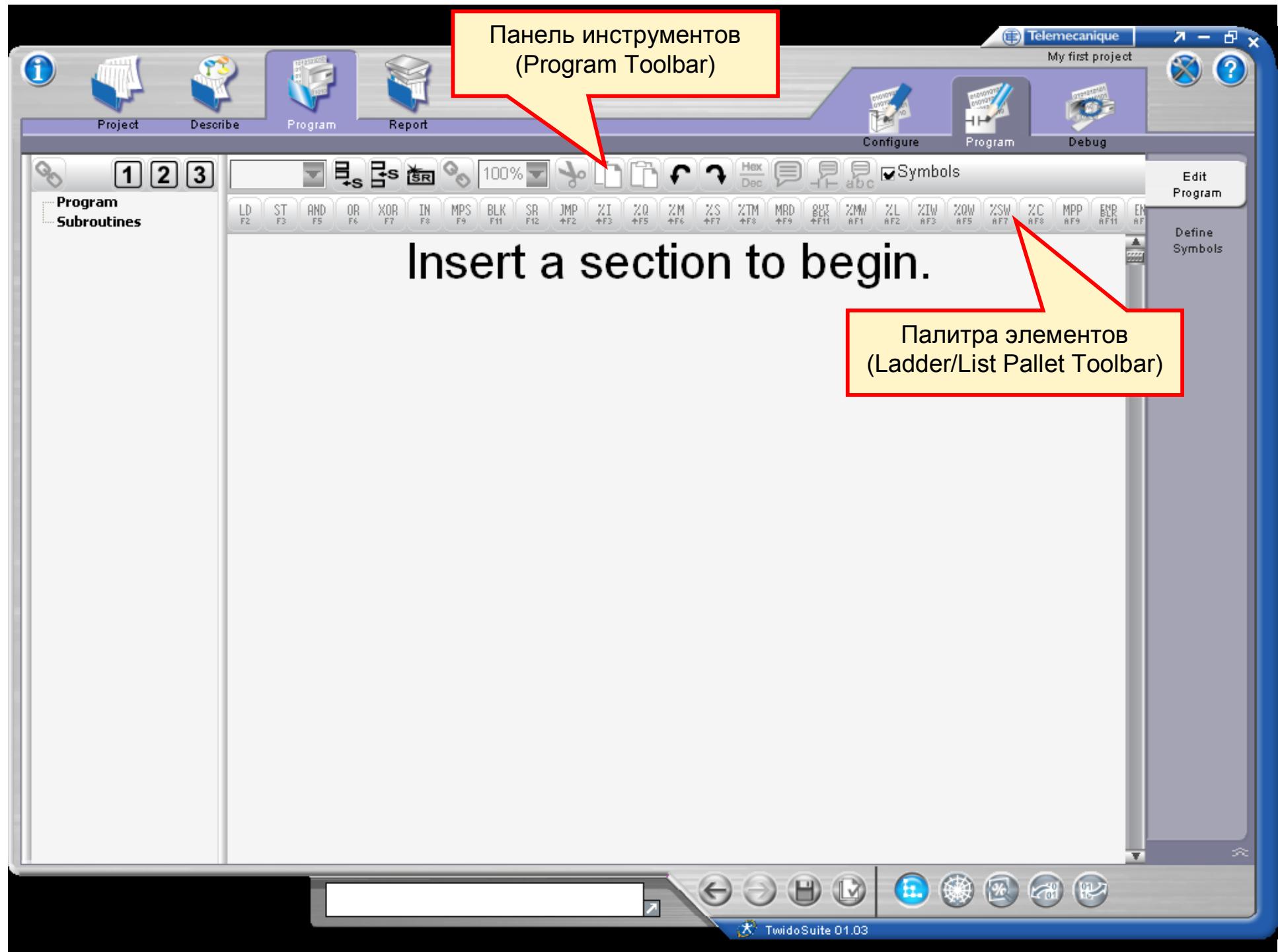


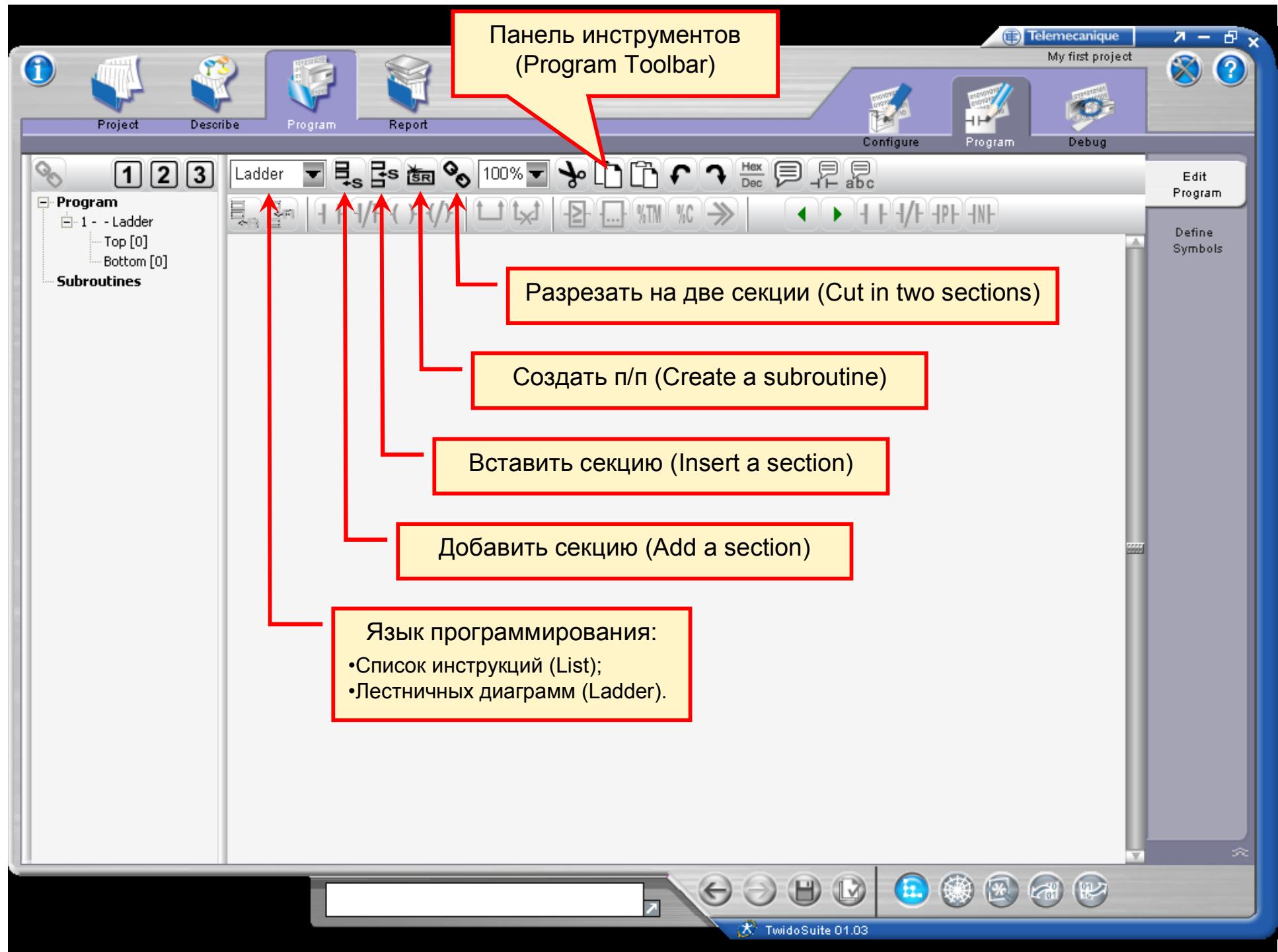


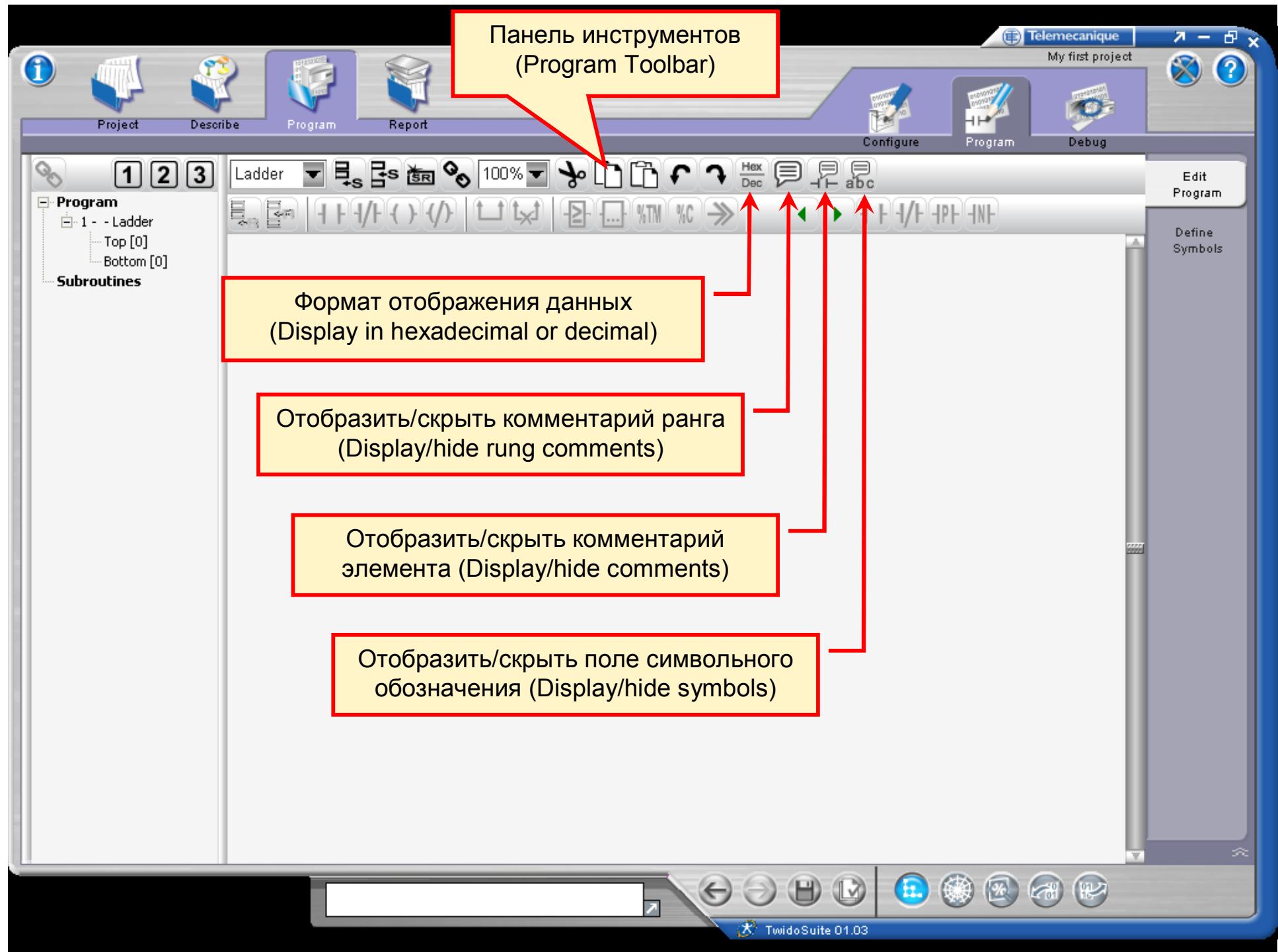


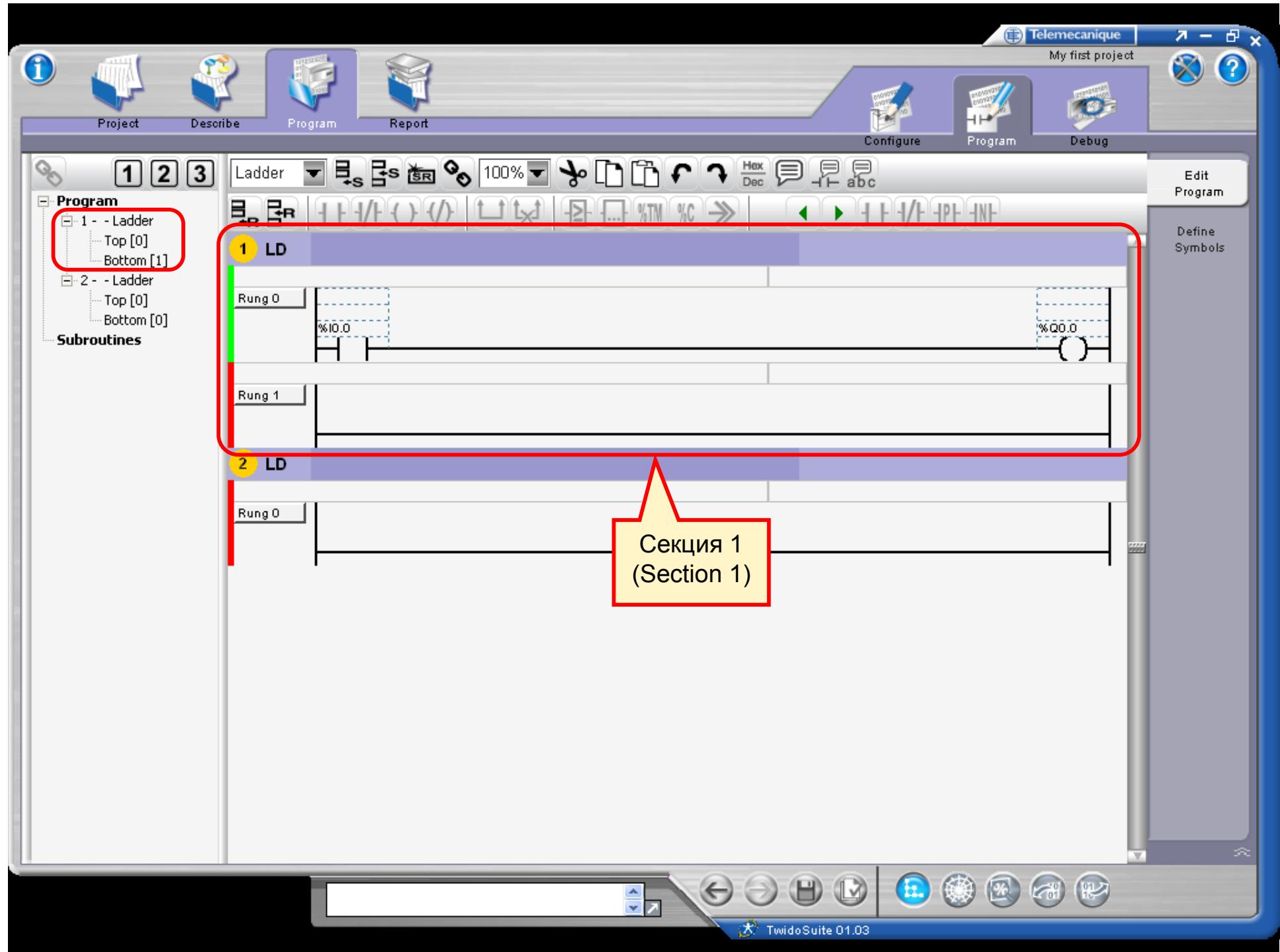
# Панели инструментов и структура программы

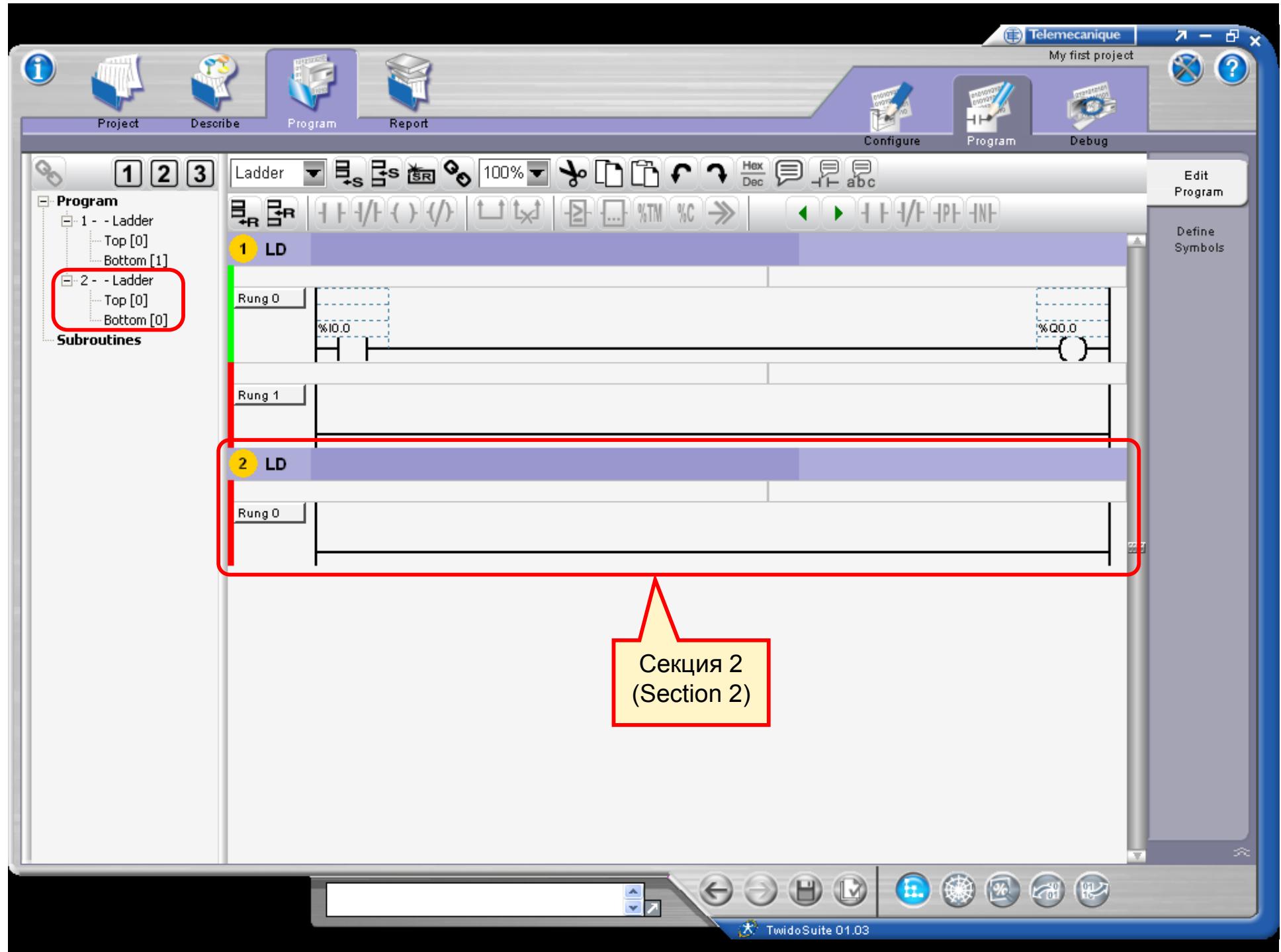




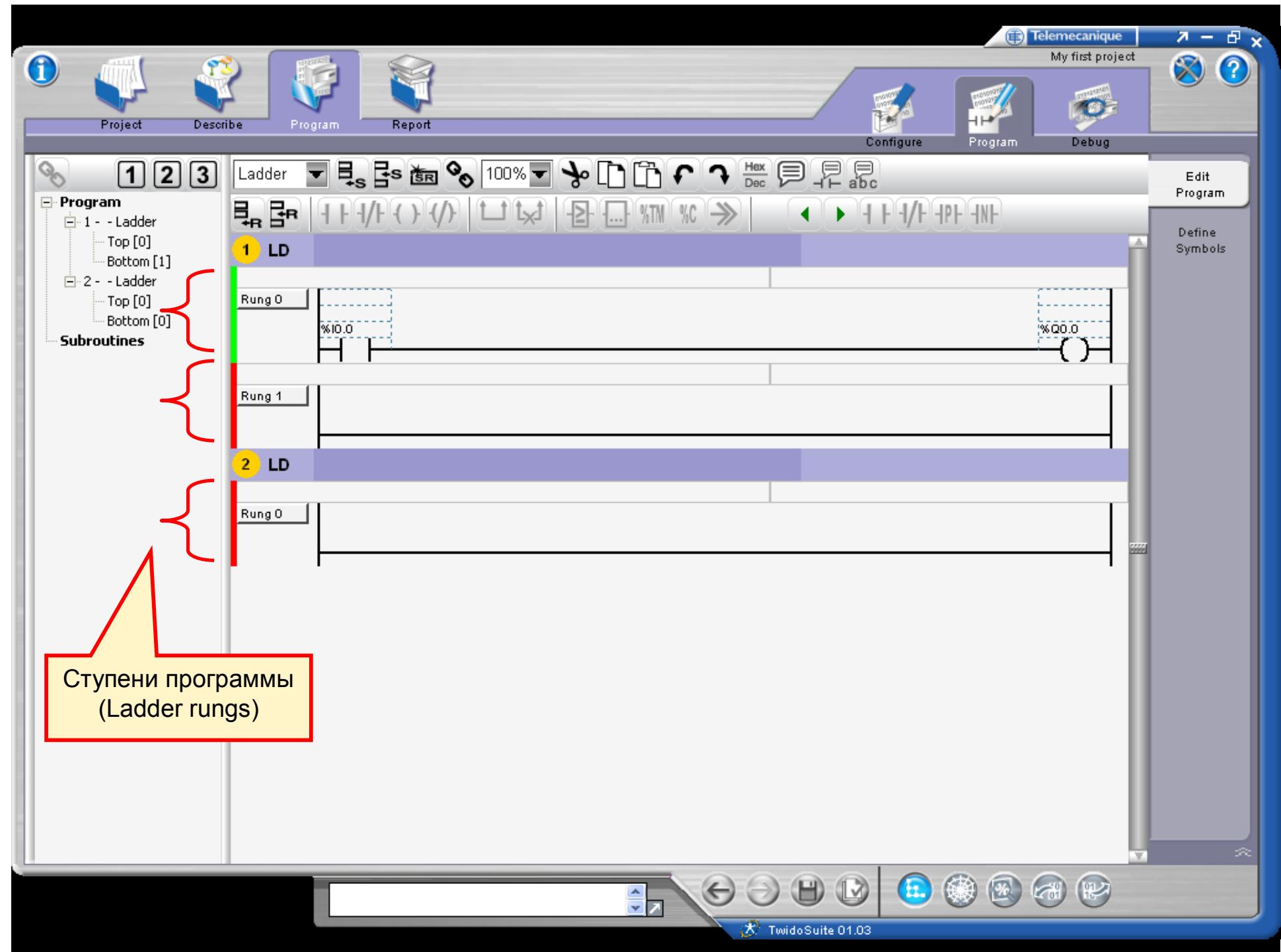


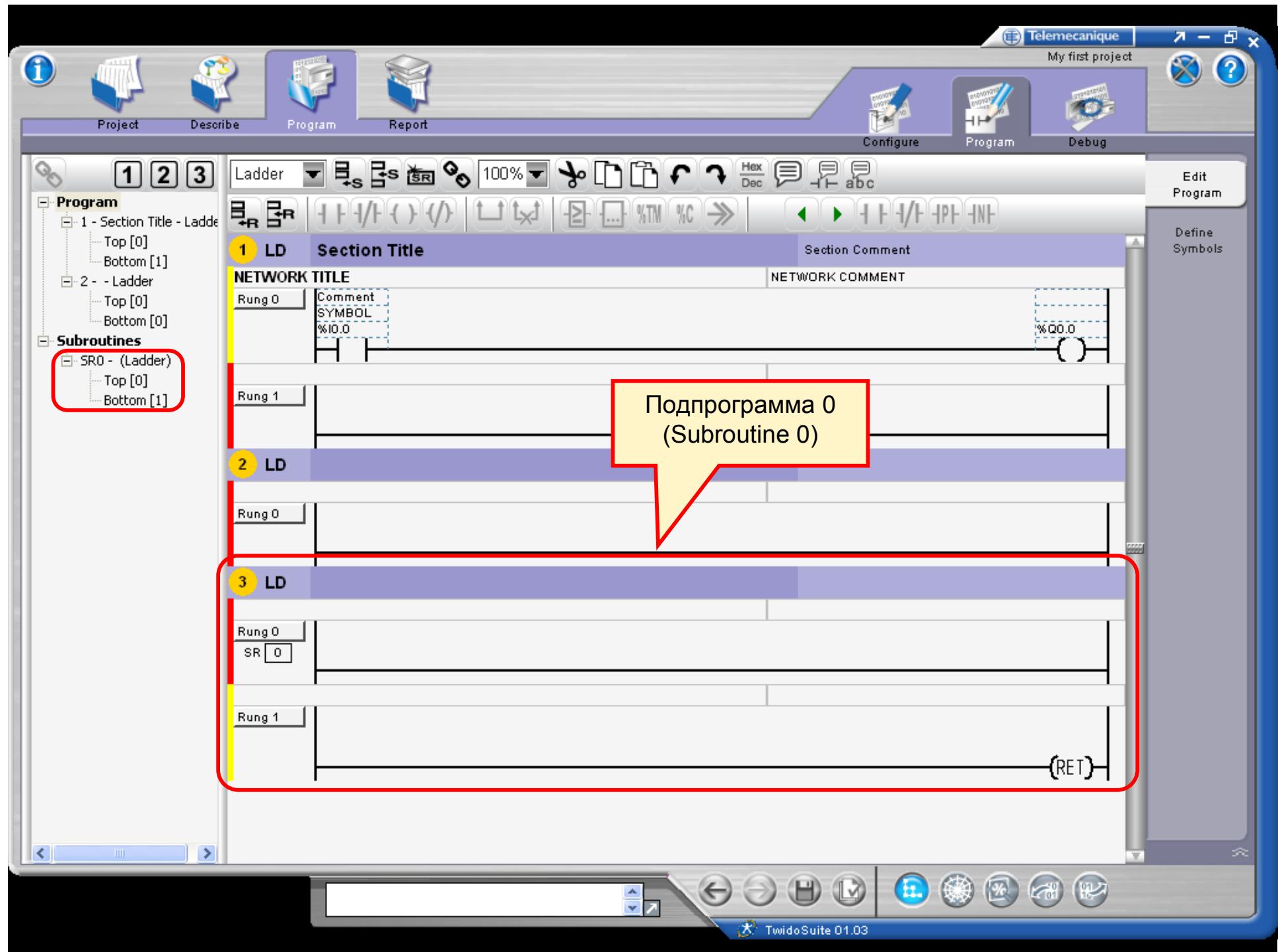


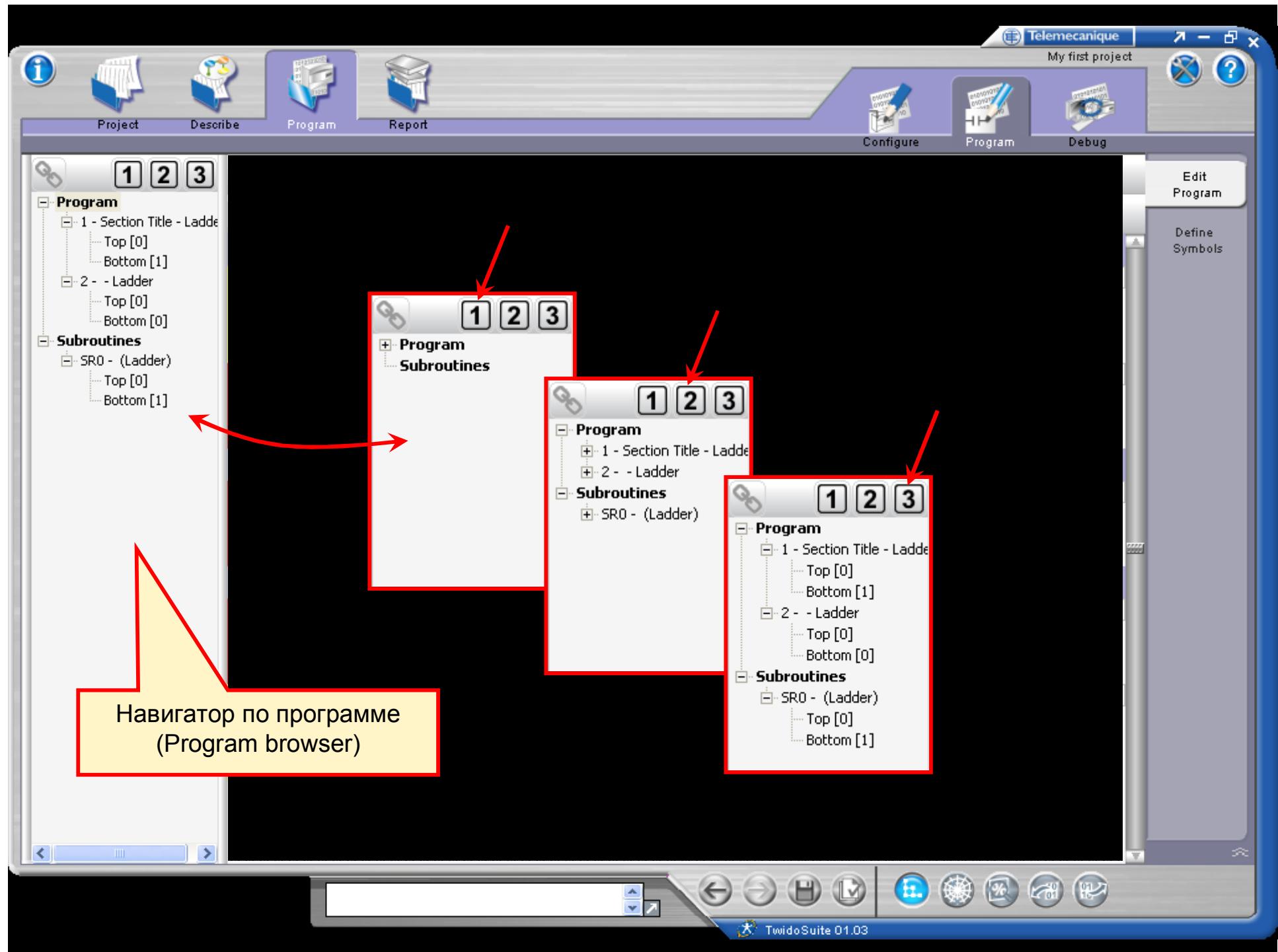


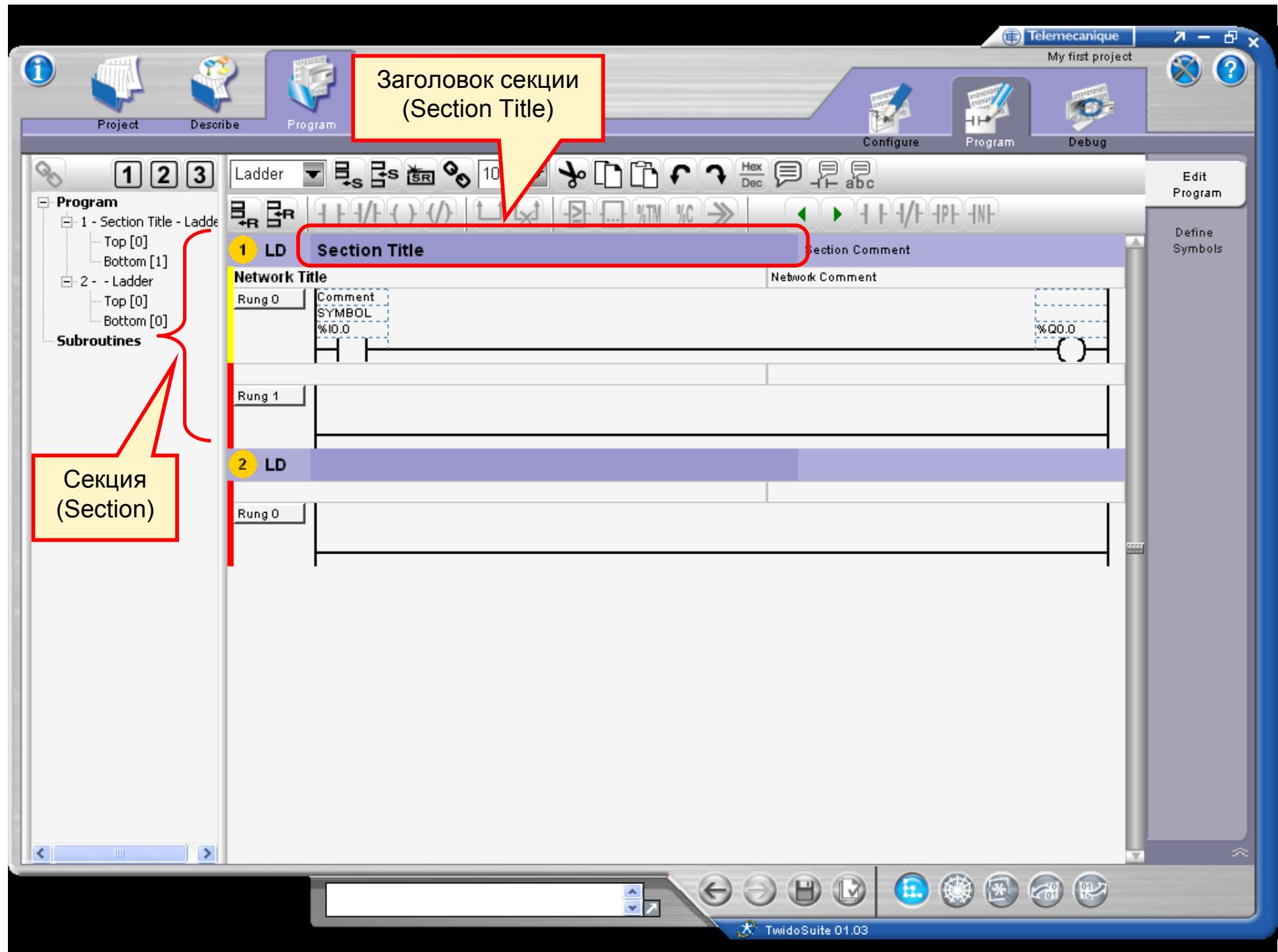


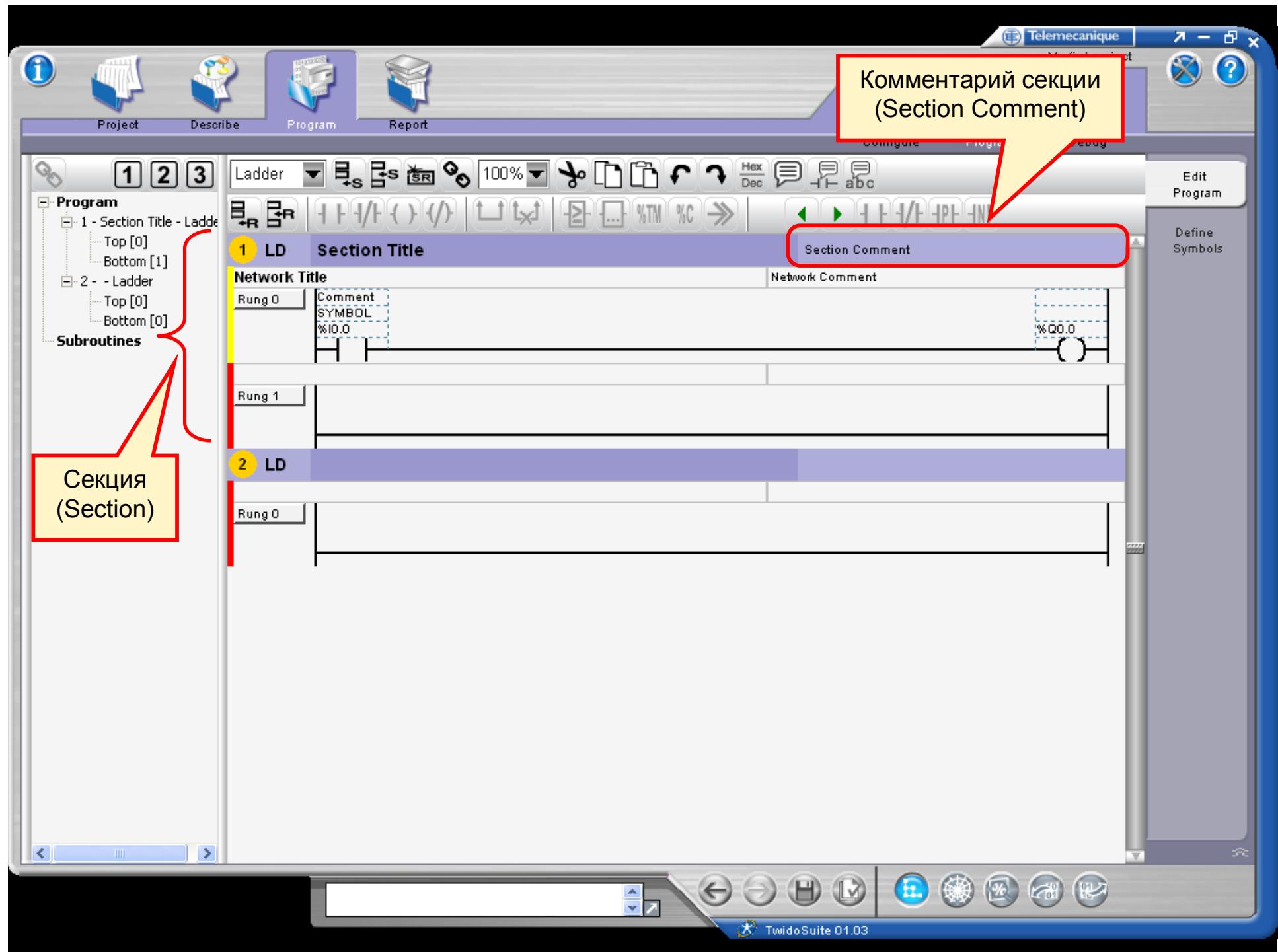
Секция 2  
(Section 2)

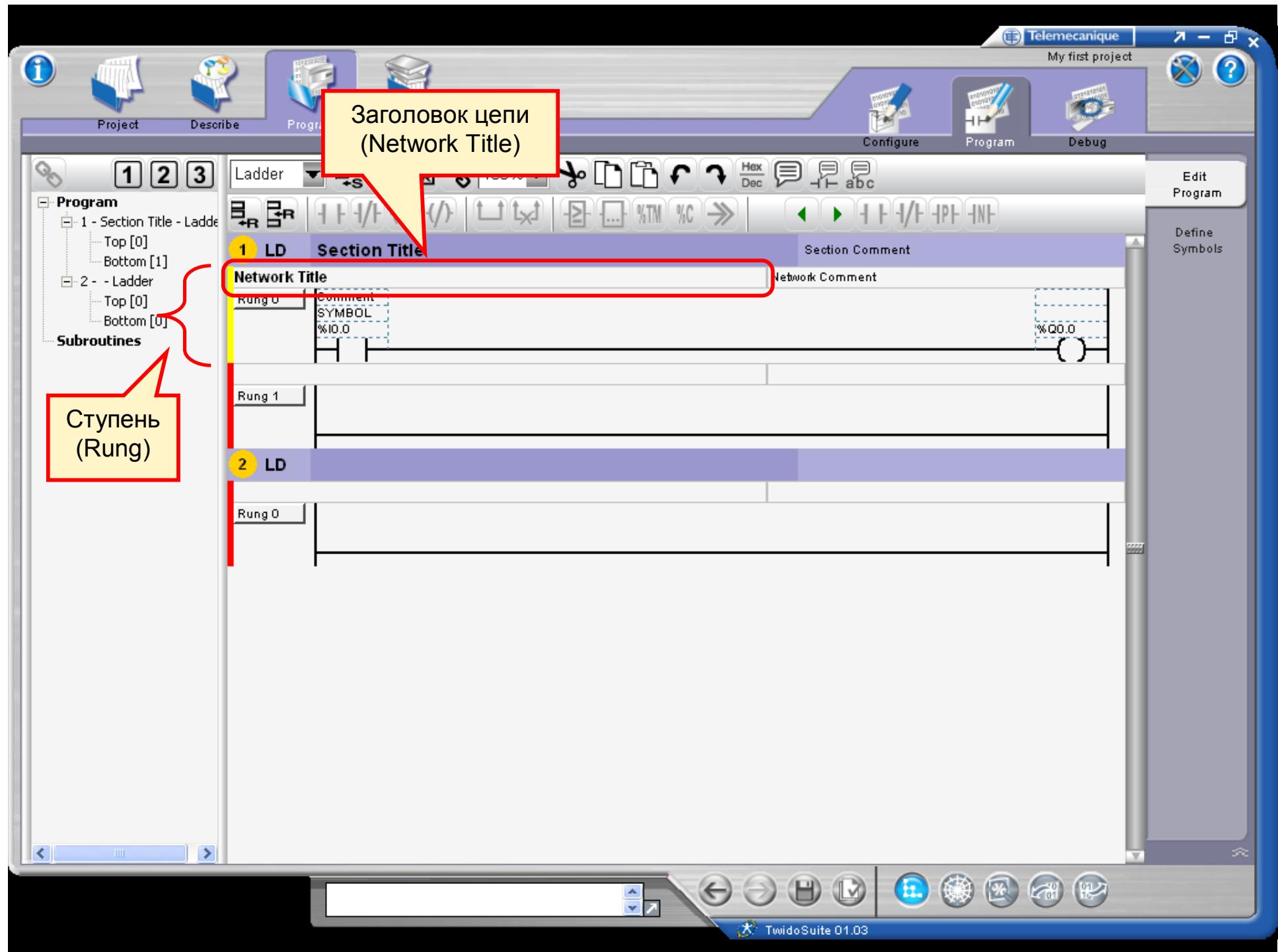


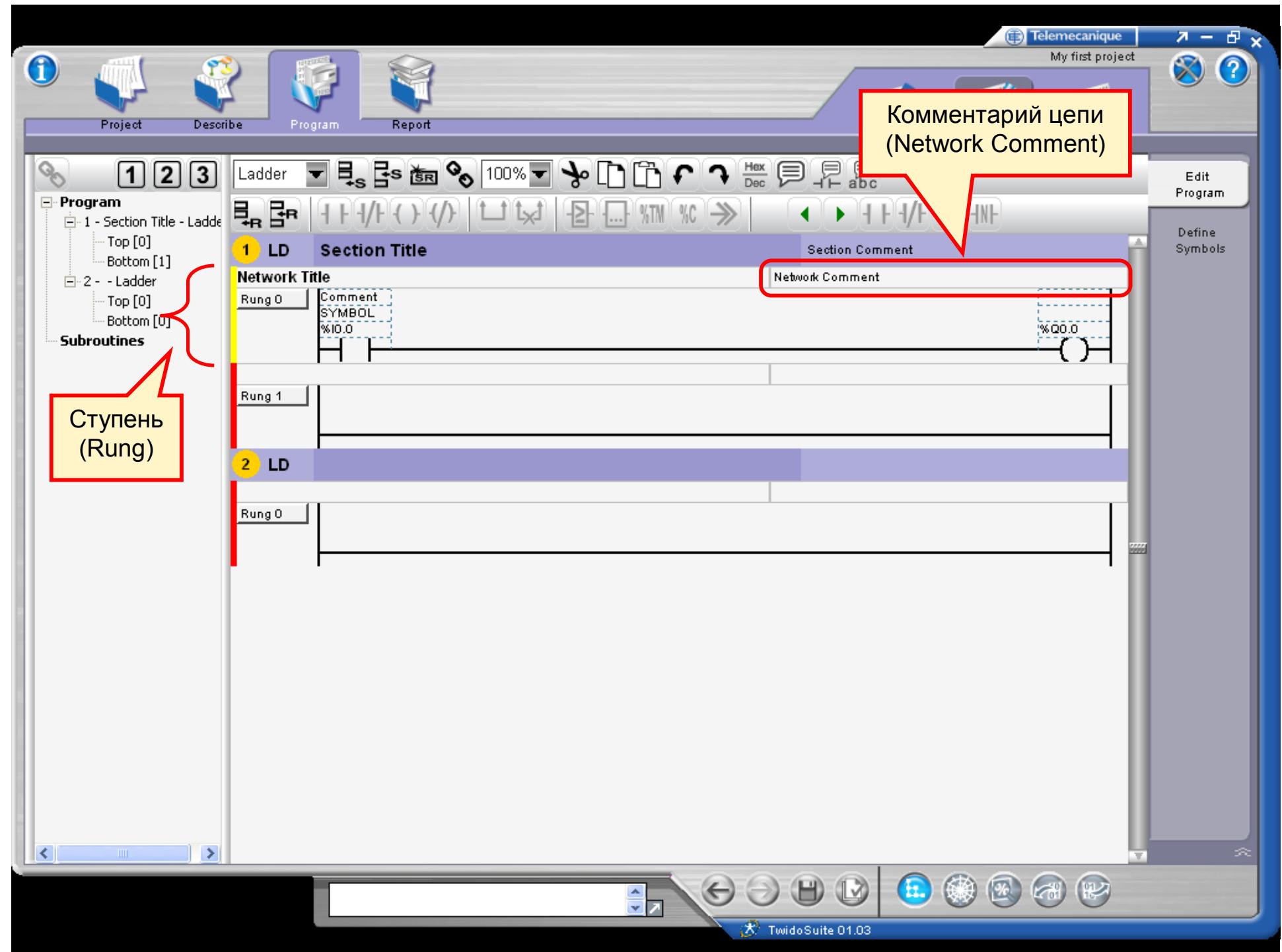


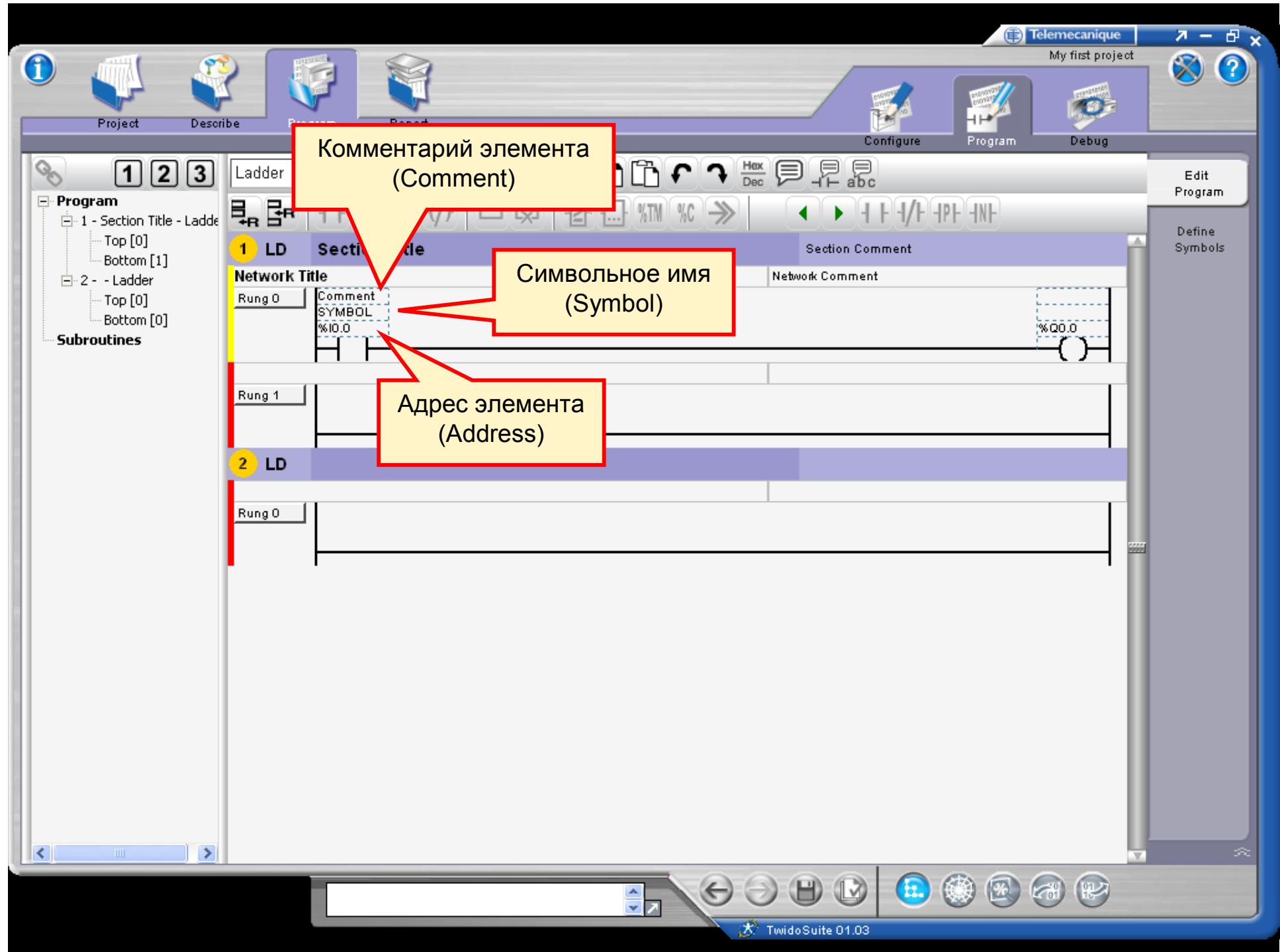


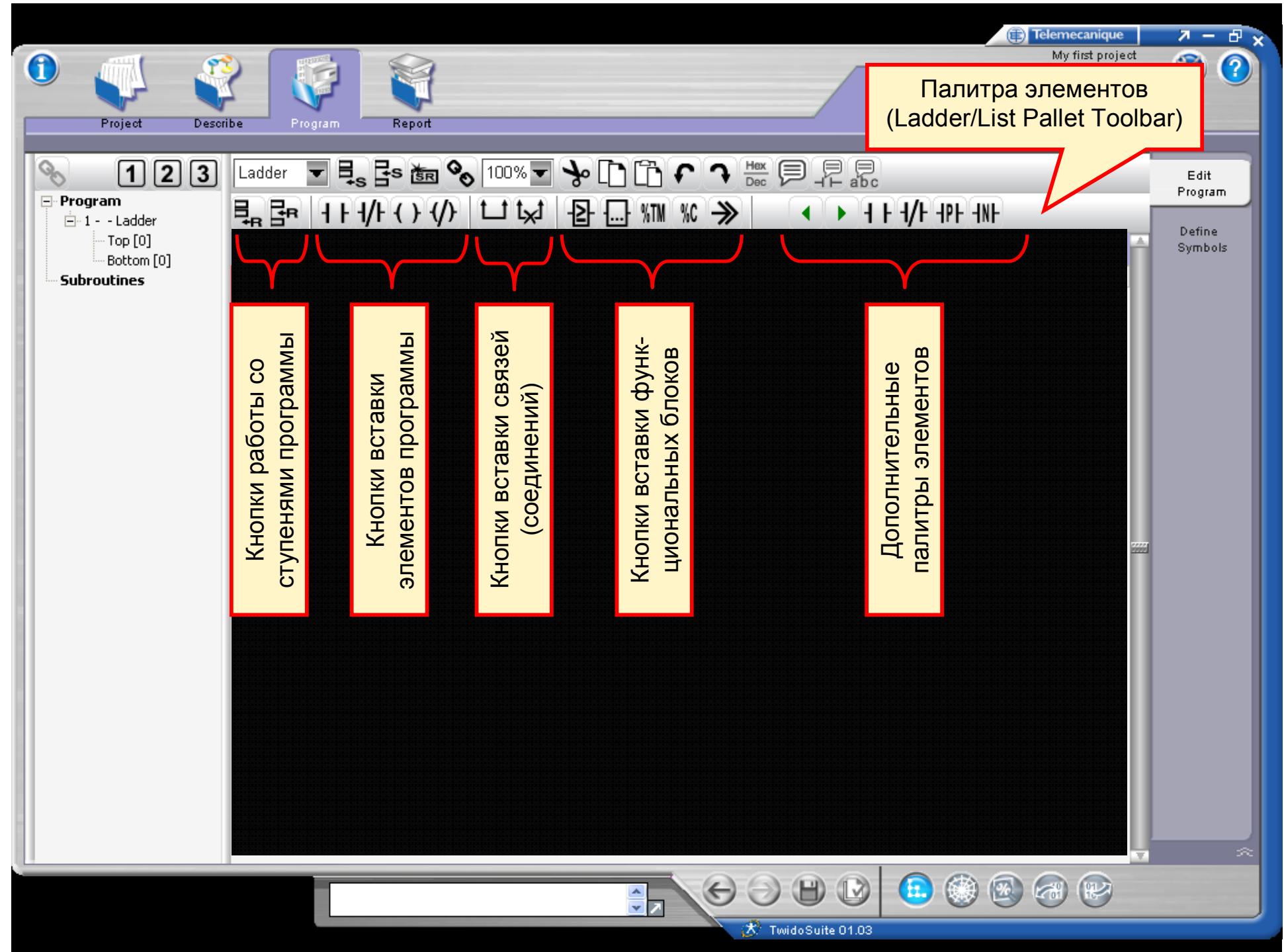


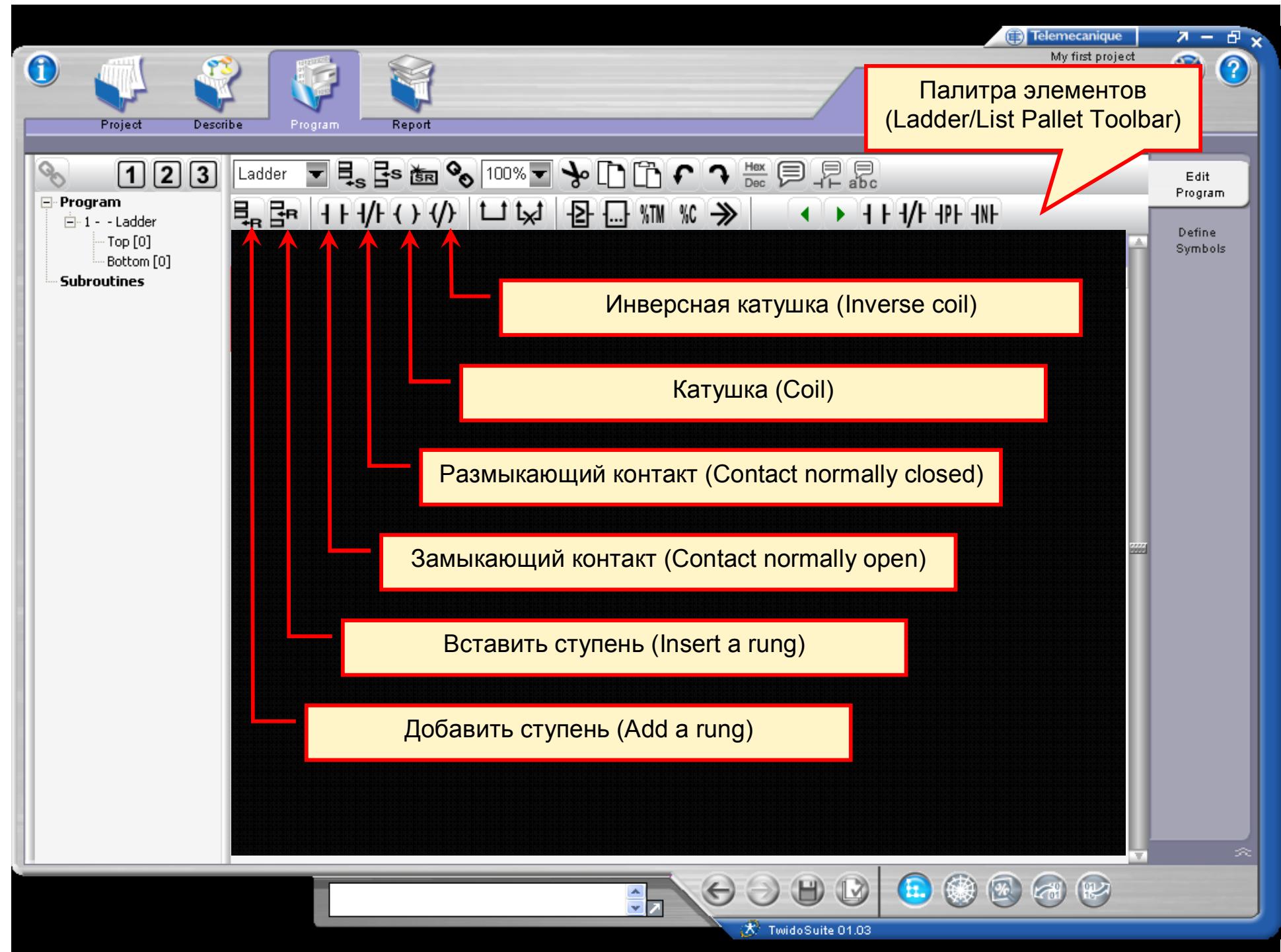


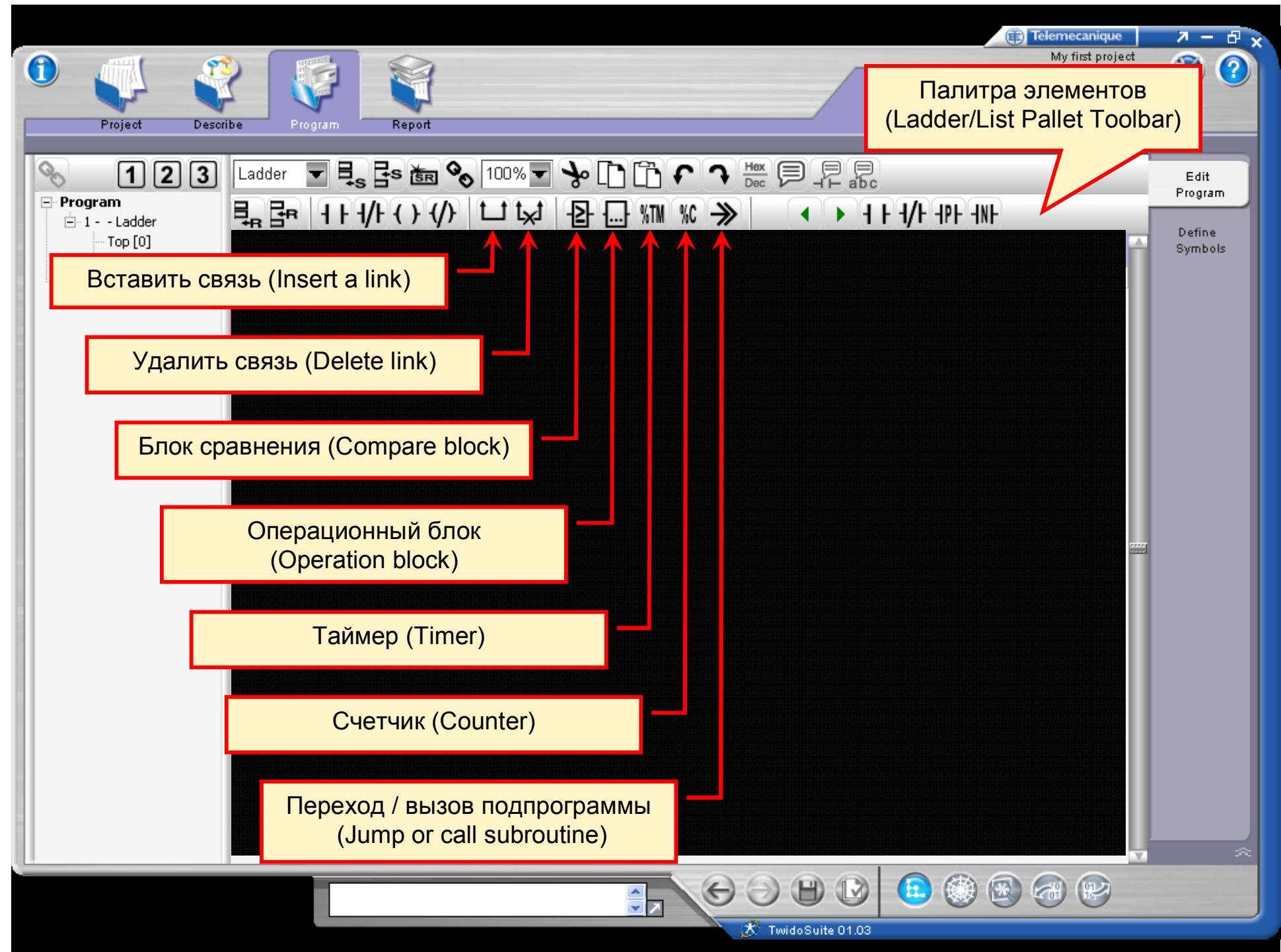


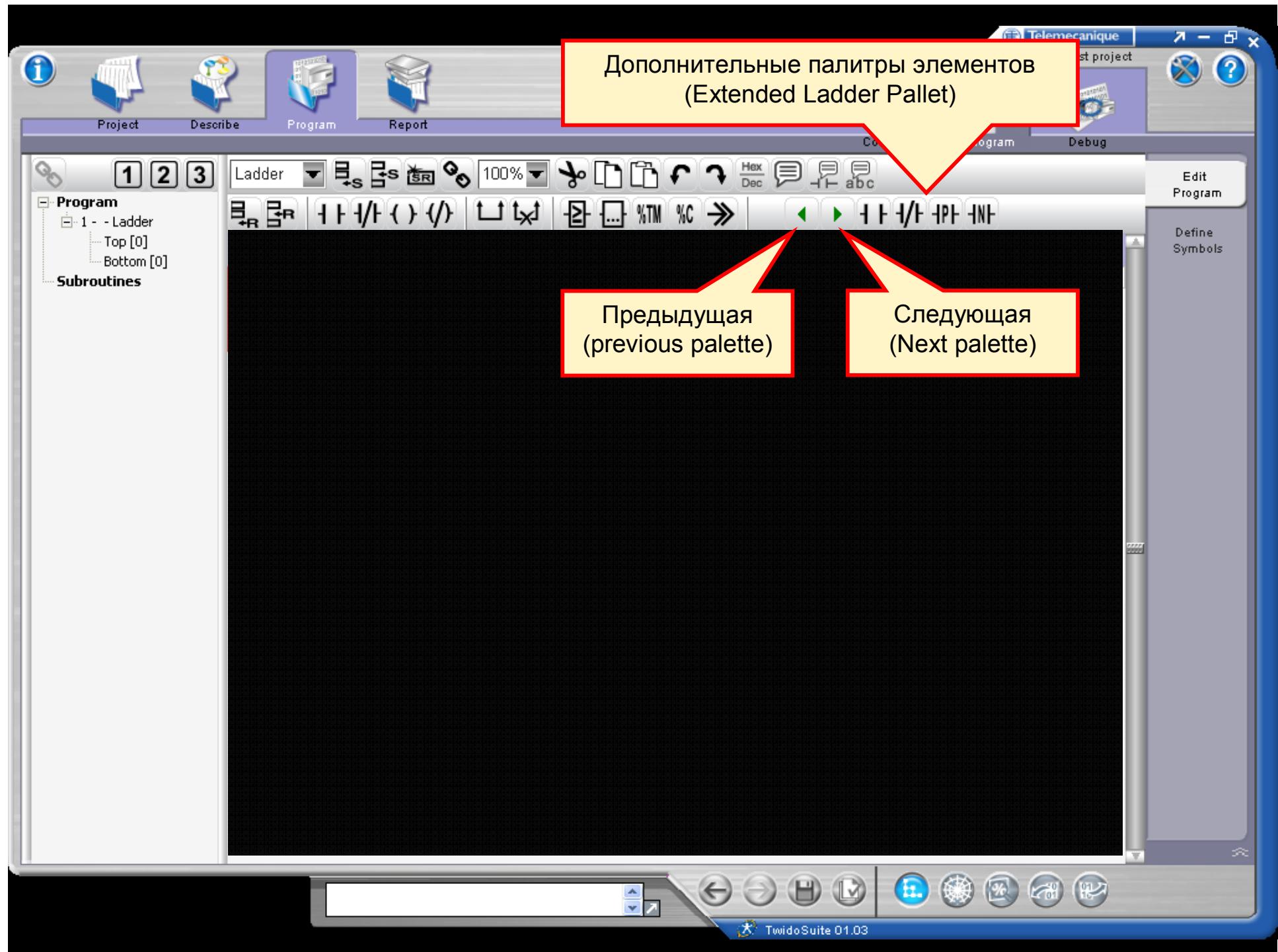


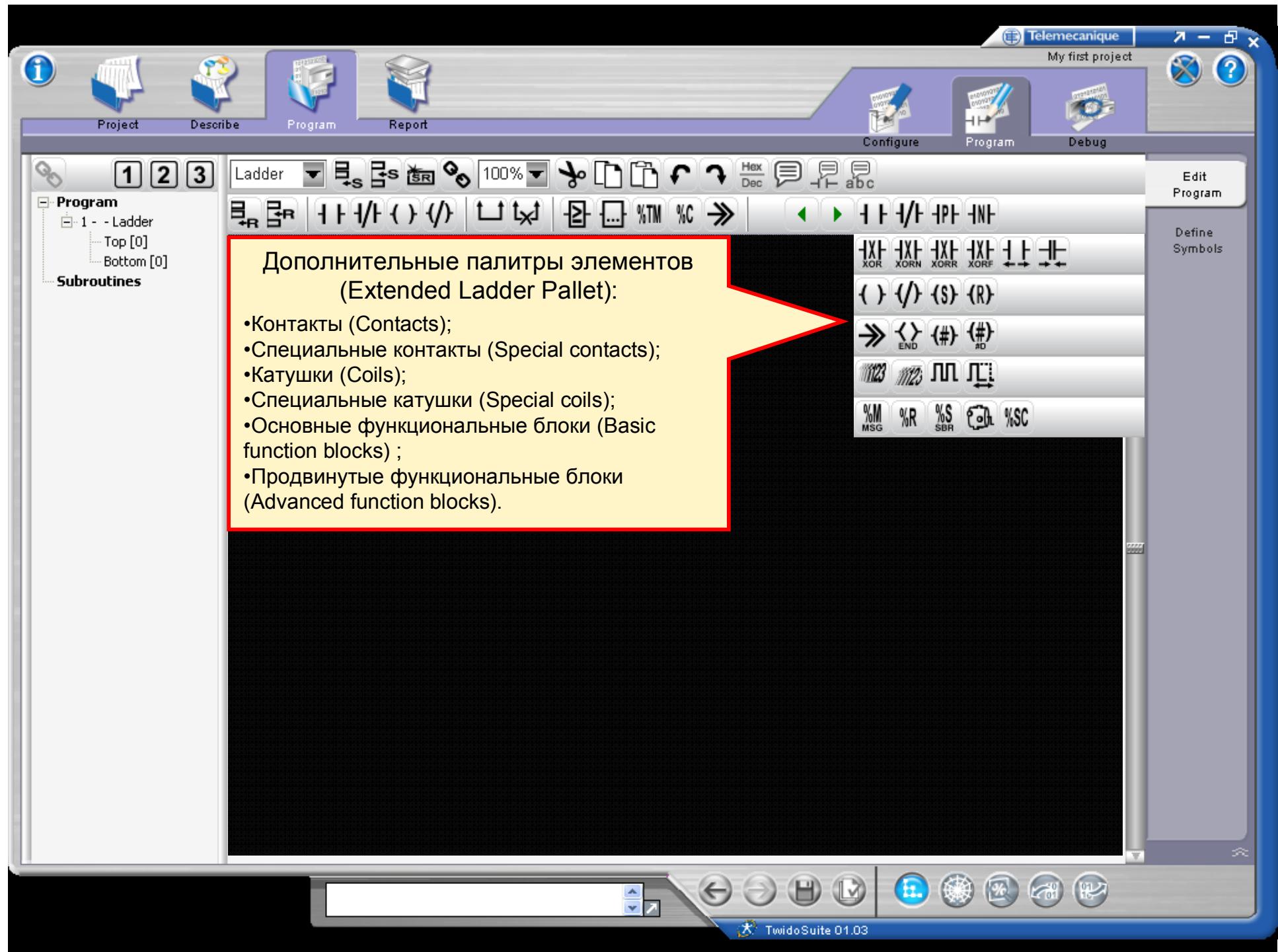












Telemecanique My first project

Project Describe Program Report Configure Program Debug

1 2 3 Ladder 100% Hex Dec abc

Program Subroutines

Program Top [0] Bottom [0]

Configure Program Debug

Edit Program

Define Symbols

**Контакты (Contacts)**

	Контакт замыкающий	Contact normally open
	Контакт размыкающий	Contact normally close
	Контакт, срабатывающий по фронту импульса	Rising edge contact
	Контакт, срабатывающий по спаду импульса	Falling edge contact

**Специальные контакты (Special contacts)**

	Контакт XOR (исключающее ИЛИ)	XOR
	Контакт XORN	XORN
	Контакт XORR	XORR
	Контакт XORF	XORF
	Разрыв (открытый контакт)	Open (always false)
	Постоянно закрытый контакт	Short (always true)

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Project Describe Program Report Configure Program Debug

1 2 3 Ladder

Program Subroutines

Edit Program Define Symbols

Катушки (Coils)

{ }	Катушка	Coil
{/}	Катушка инверсная	Inverse coil
{S}	Катушка установки триггера	Set to 1
{R}	Катушка сброса триггера	Set to 0

Специальные катушки (Special coils)

⇒	Переход или вызов подпрограммы	Jump or call subroutine
END	Конец программы	End of program
{#}	Дезактивирует текущий шаг и активирует указанный шаг	Disables step and enables indicated step
{#} AD	Дезактивирует текущий и указанный шаг	Disables the step and also the indicated step

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Project Describe Program Report Configure Program Debug

1 2 3 Ladder

Program Subroutines

Edit Program Define Symbols

Основные функциональные блоки (Basic function blocks)

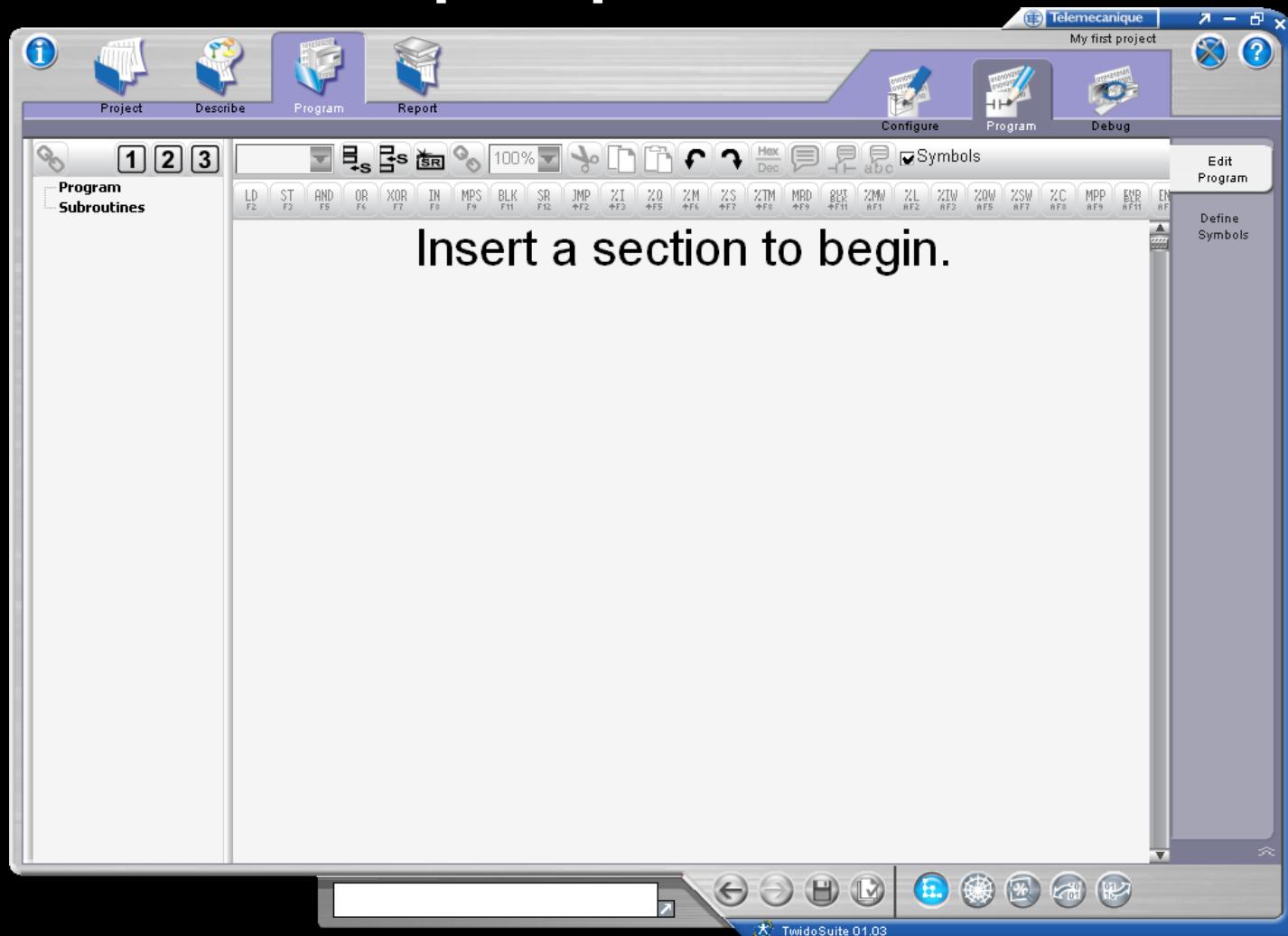
	Быстрый счетчик	Fast counter
	Сверхбыстрый счетчик	Very fast counter
	Генератор импульсов	Pulse generator output
	Генератор ШИМ	Pulse width modulation

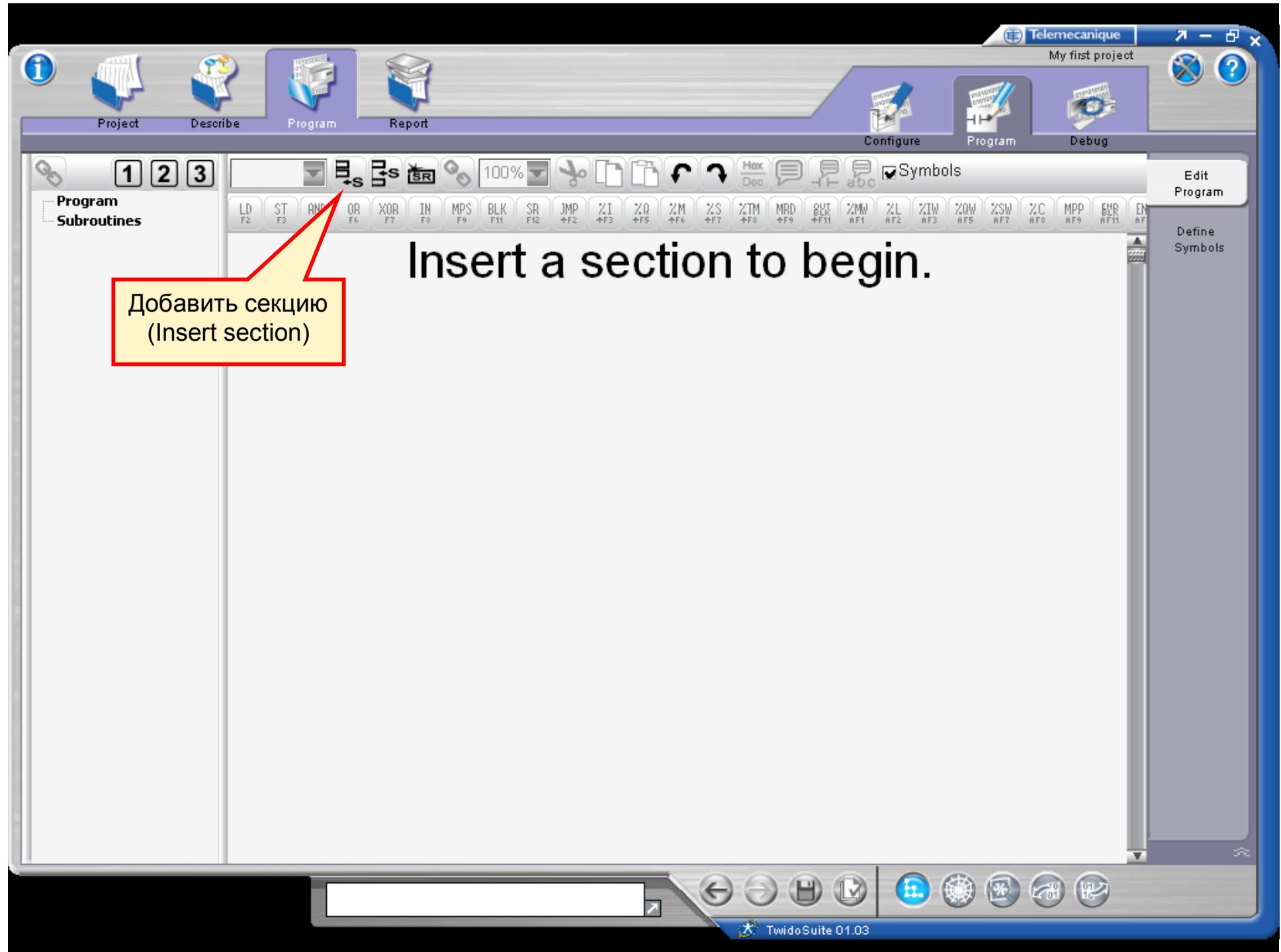
Продвинутые функциональные блоки (Advanced function blocks)

	Блок контроля обмена	Message block
	Регистр LIFO/FIFO	Register
	Сдвиговый регистр	Shift register
	Барабанный контроллер	Drum controller
	Счетчик шагов	Step counter function

TwidoSuite 01.03

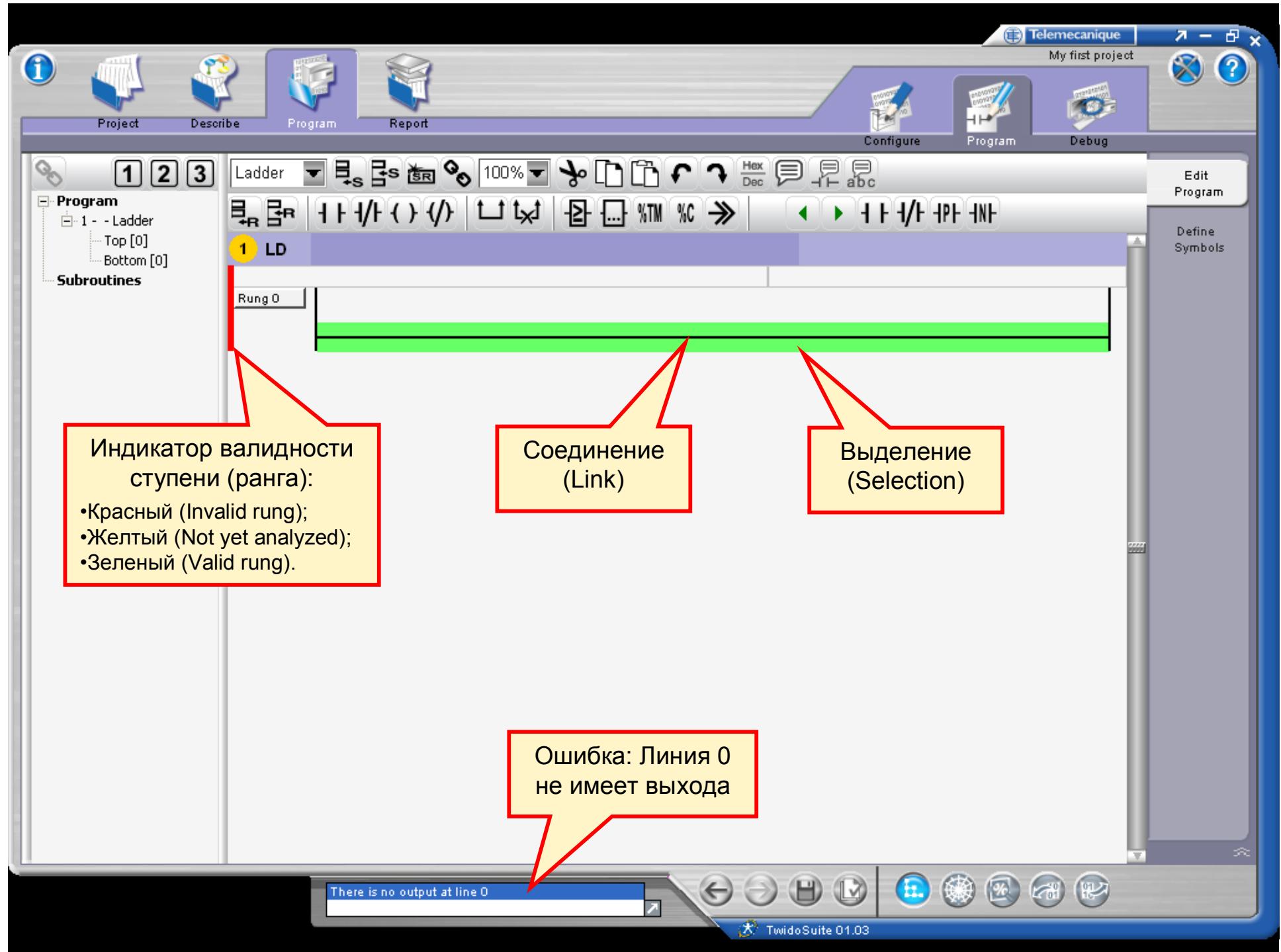
# Набор и редактирование программы

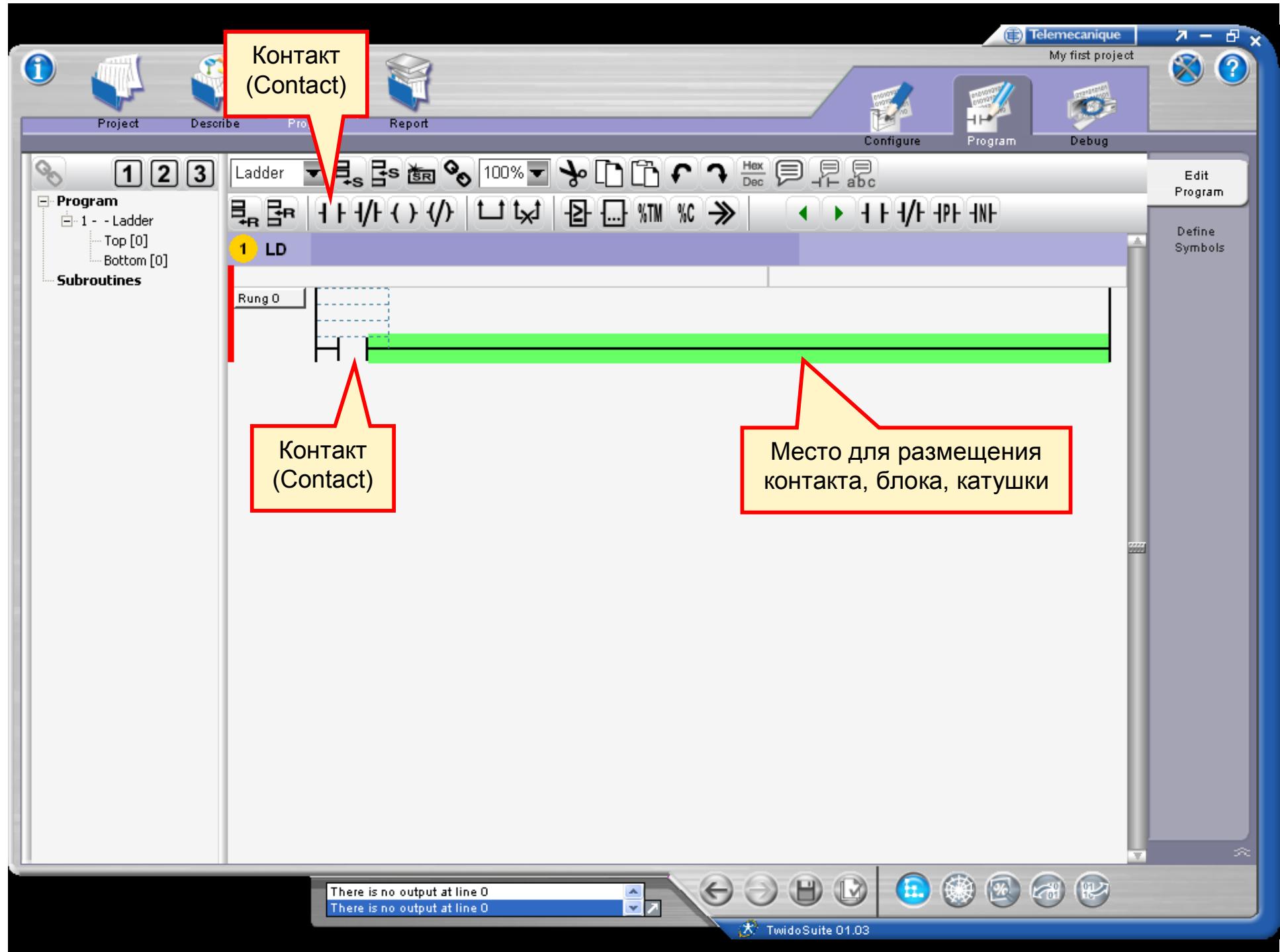


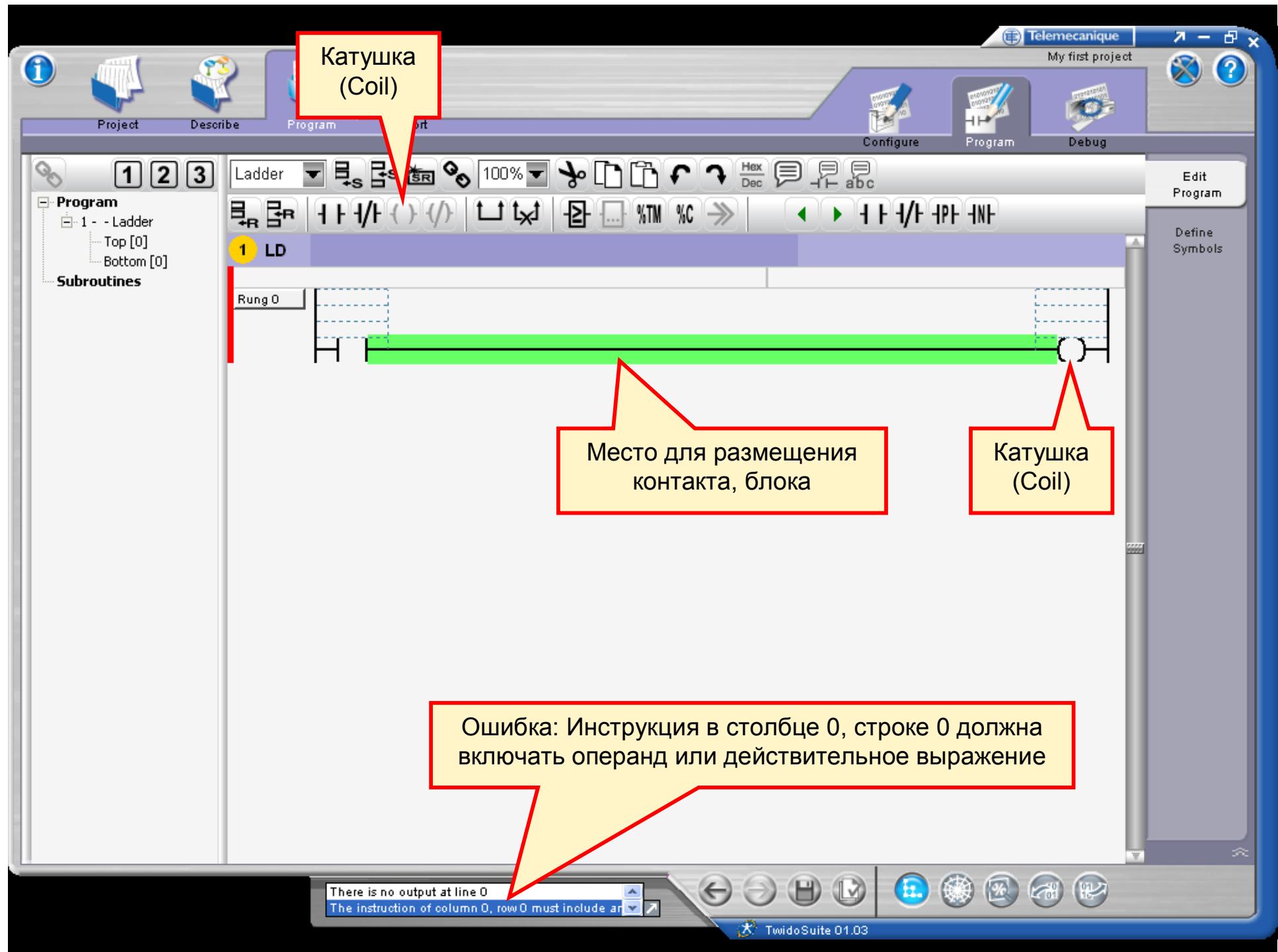


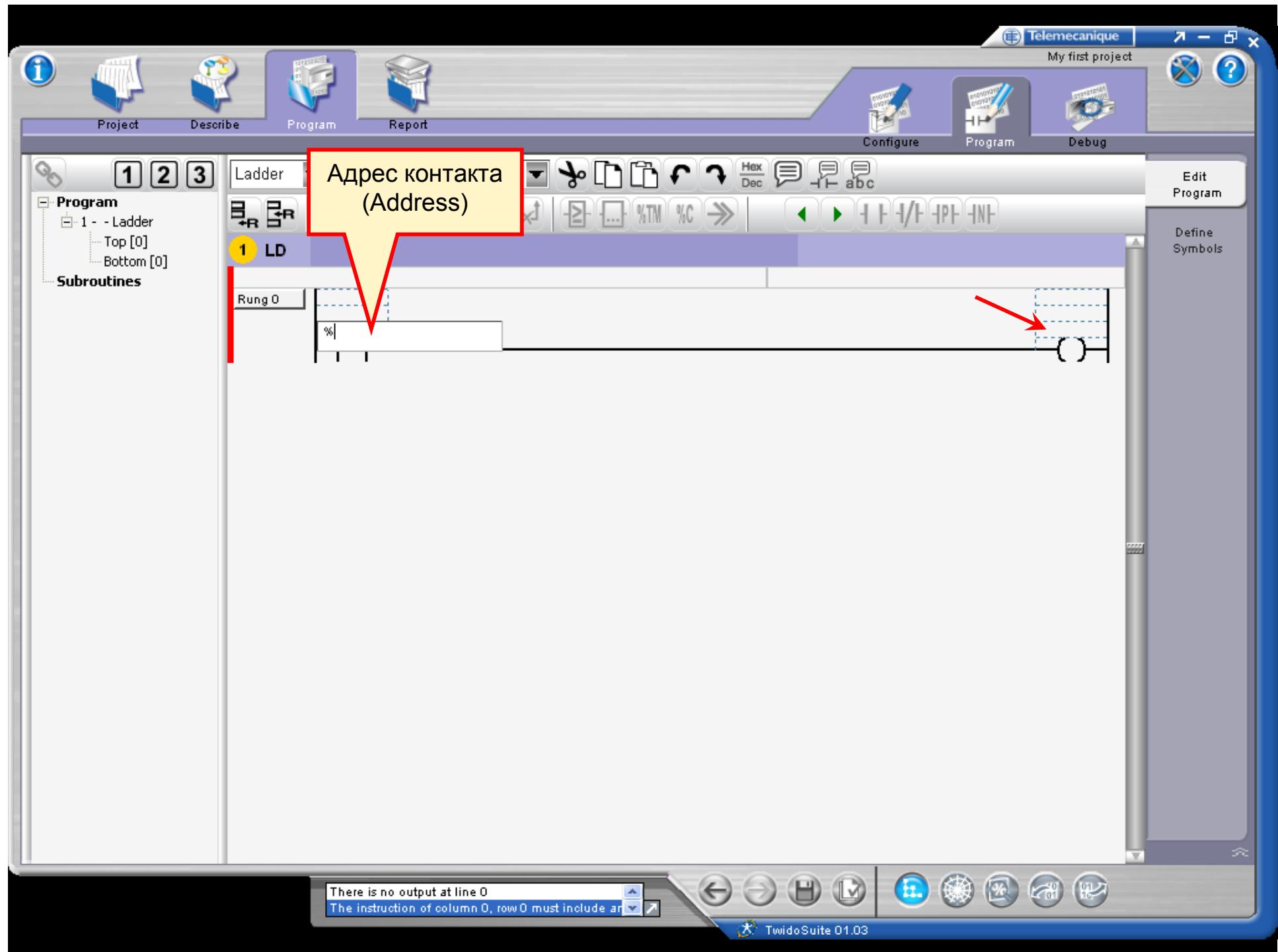
Insert a section to begin.

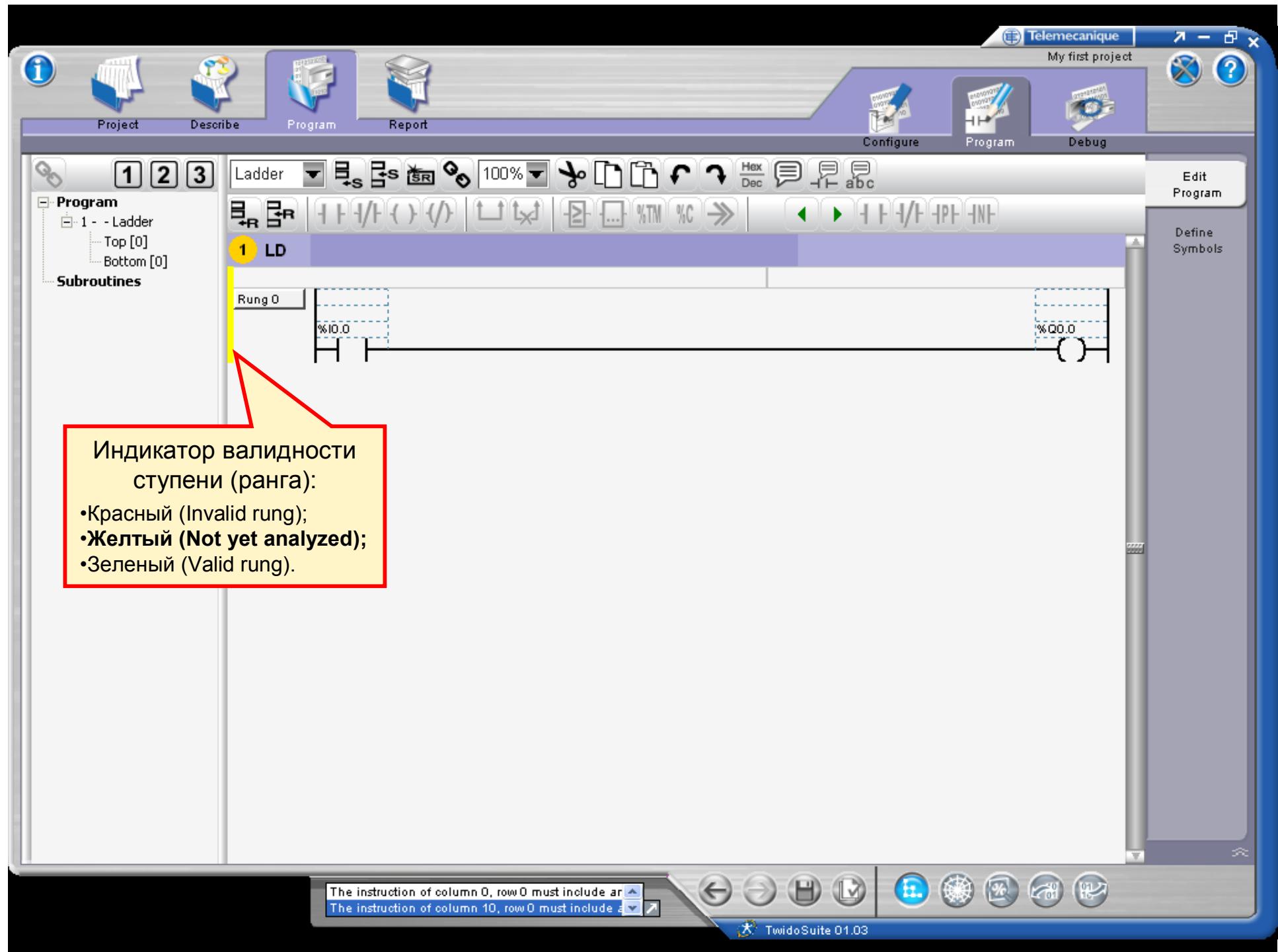
Добавить секцию  
(Insert section)

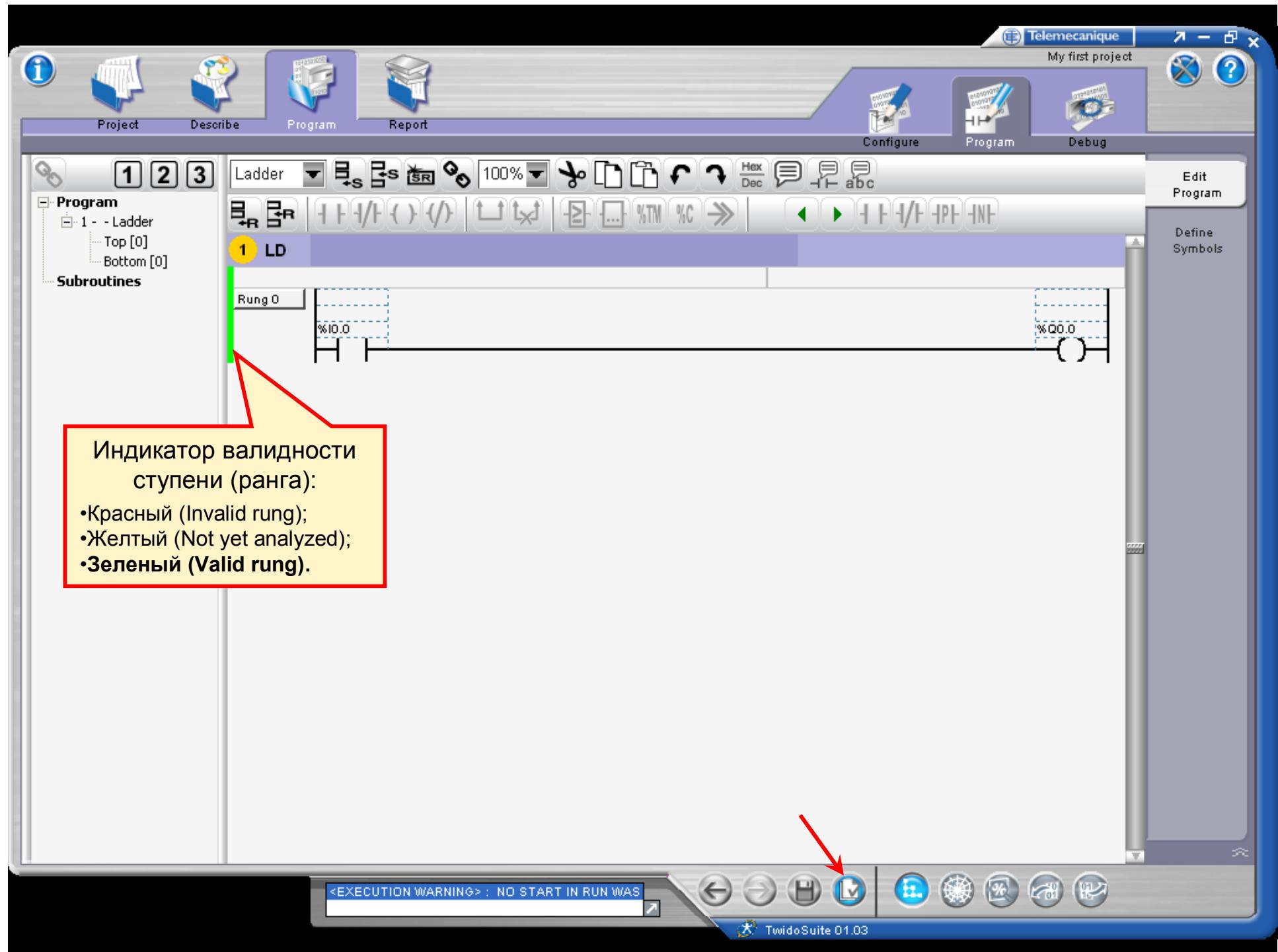


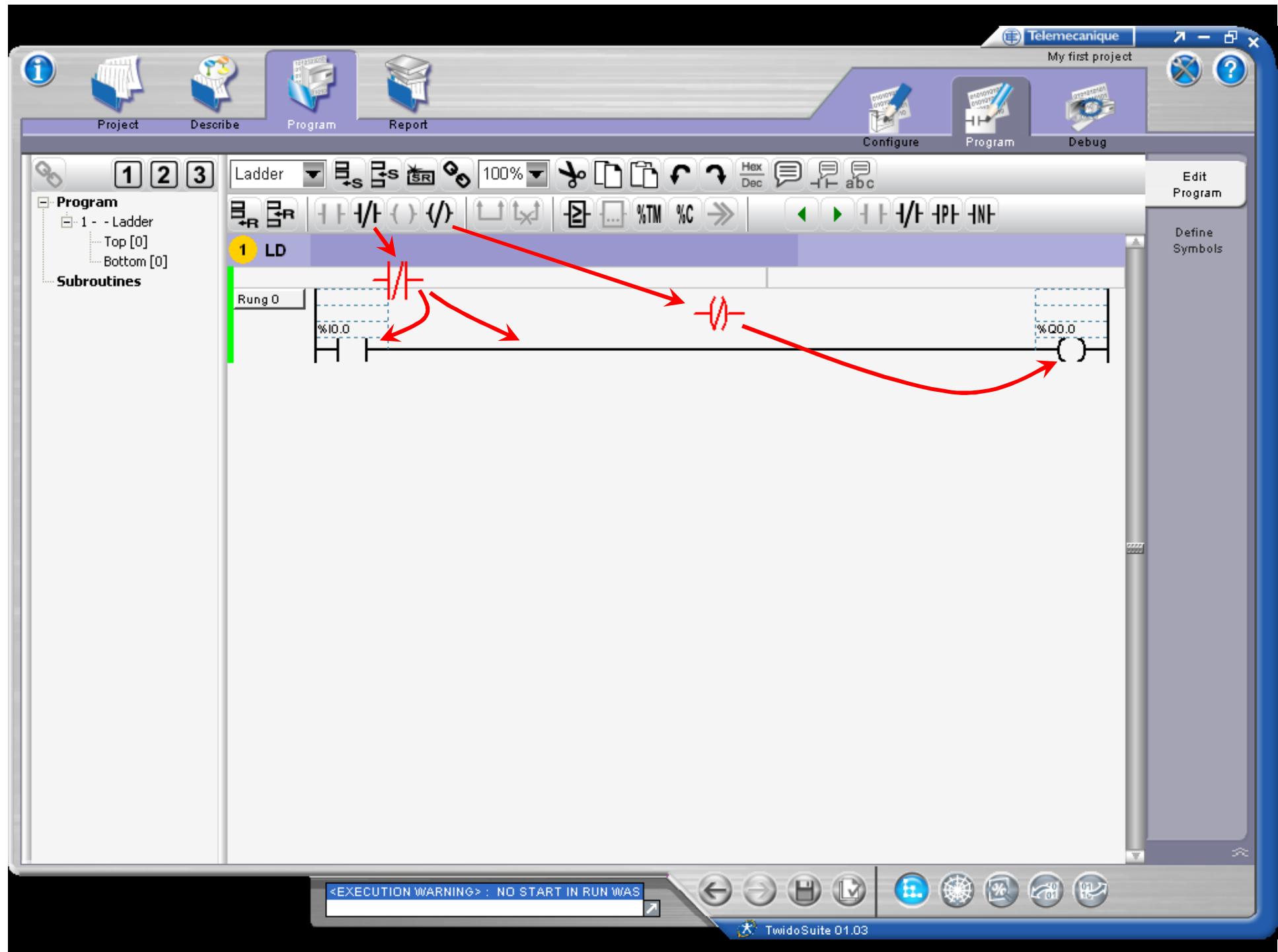


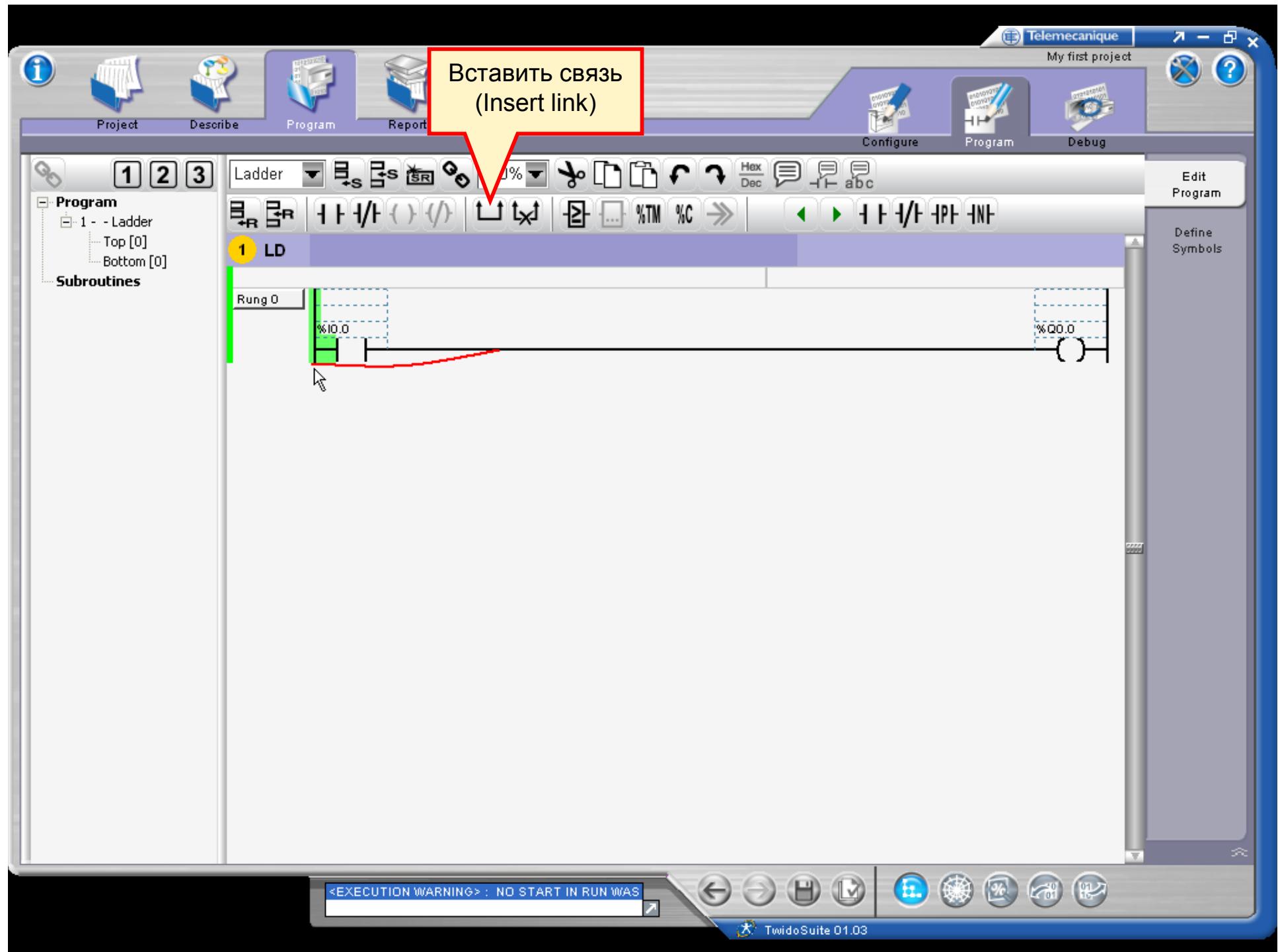


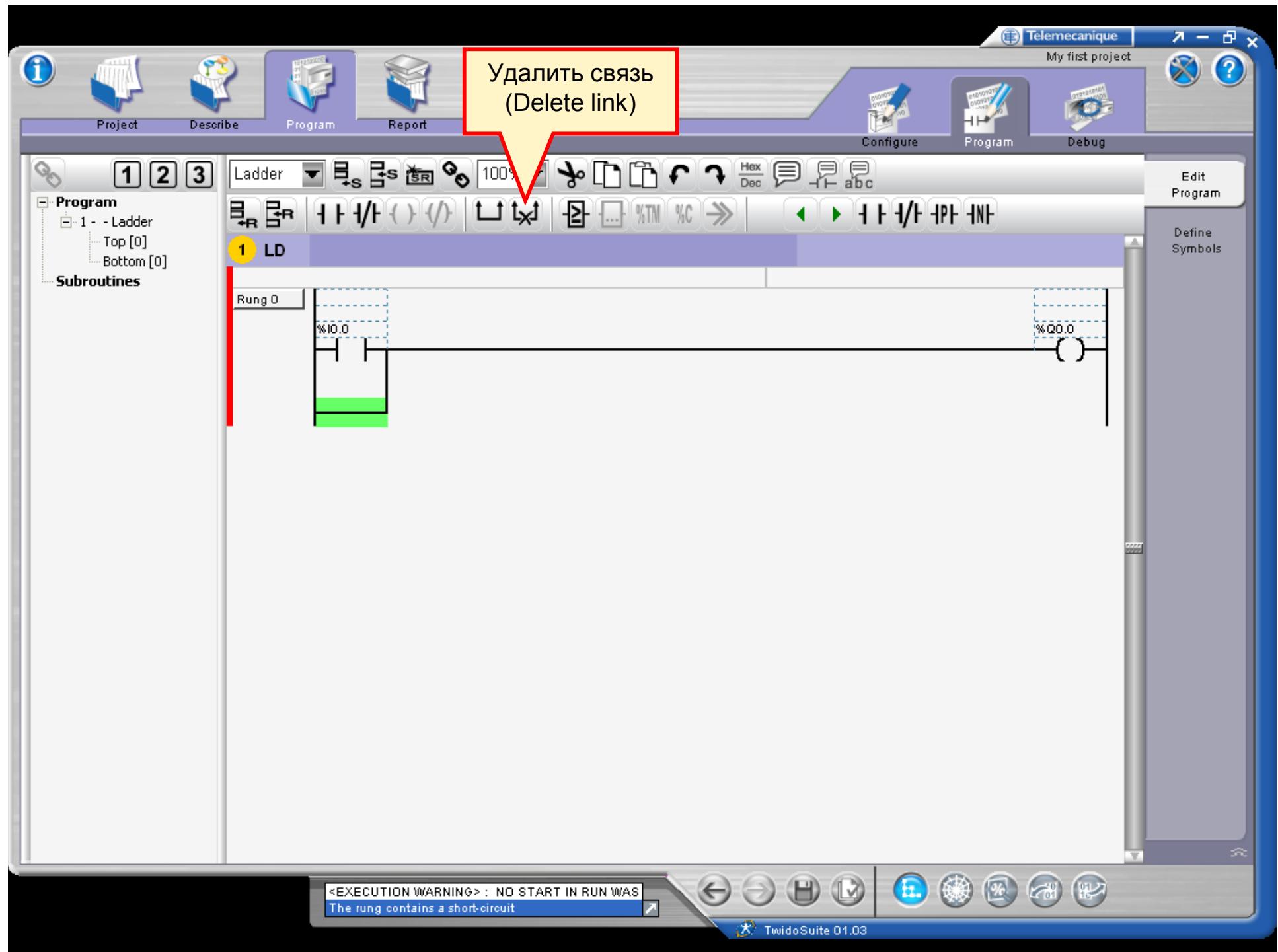


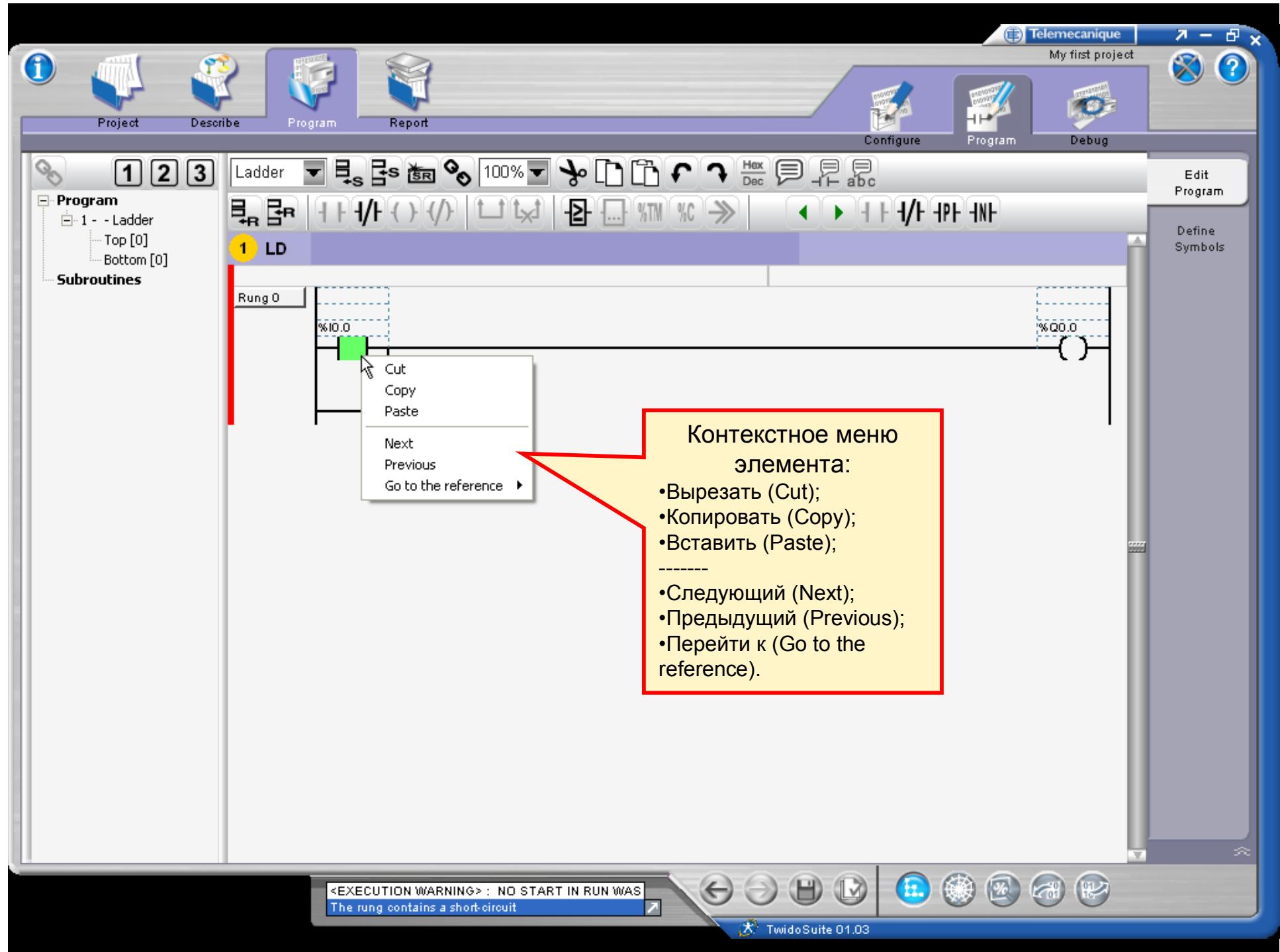




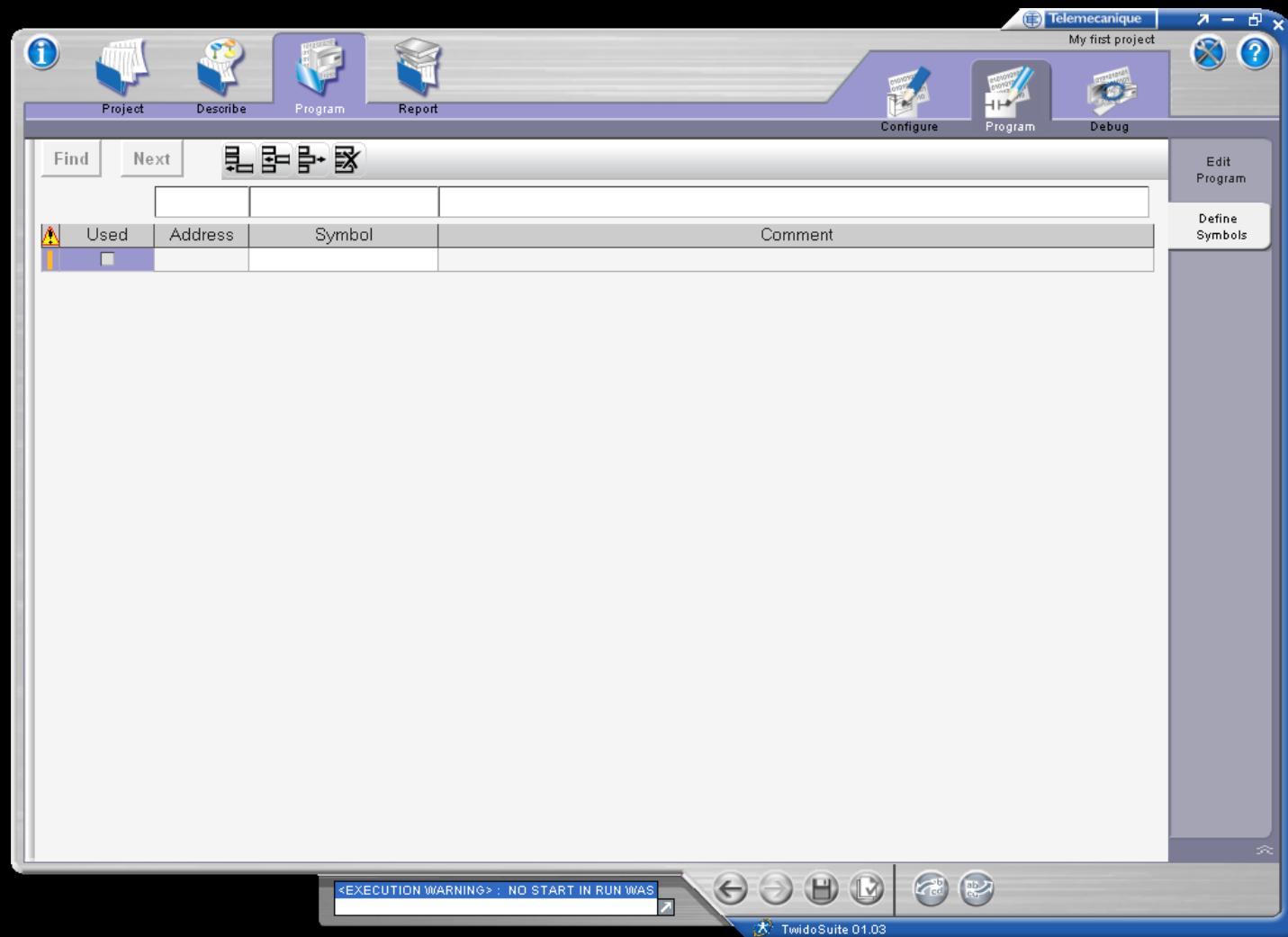


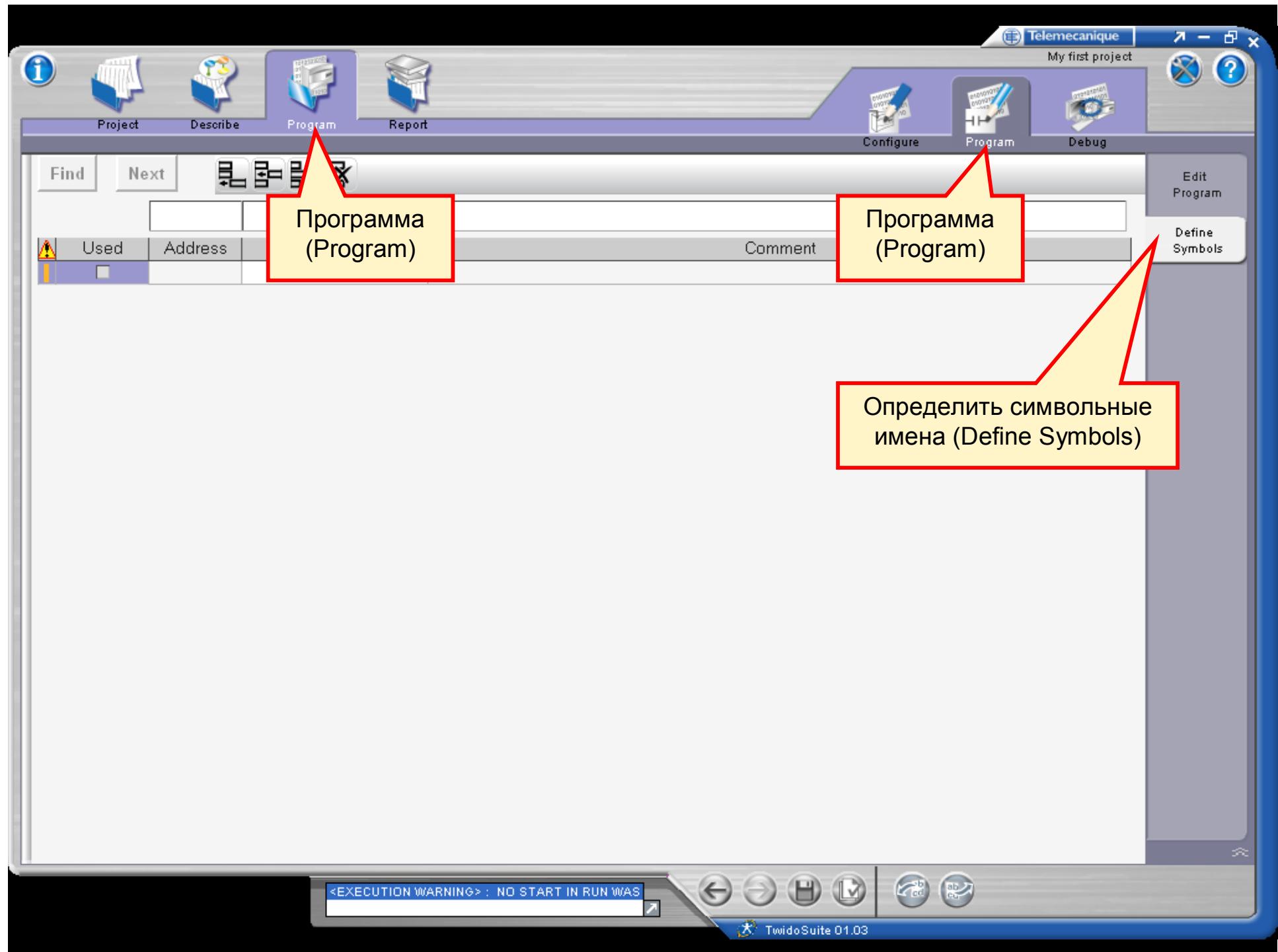


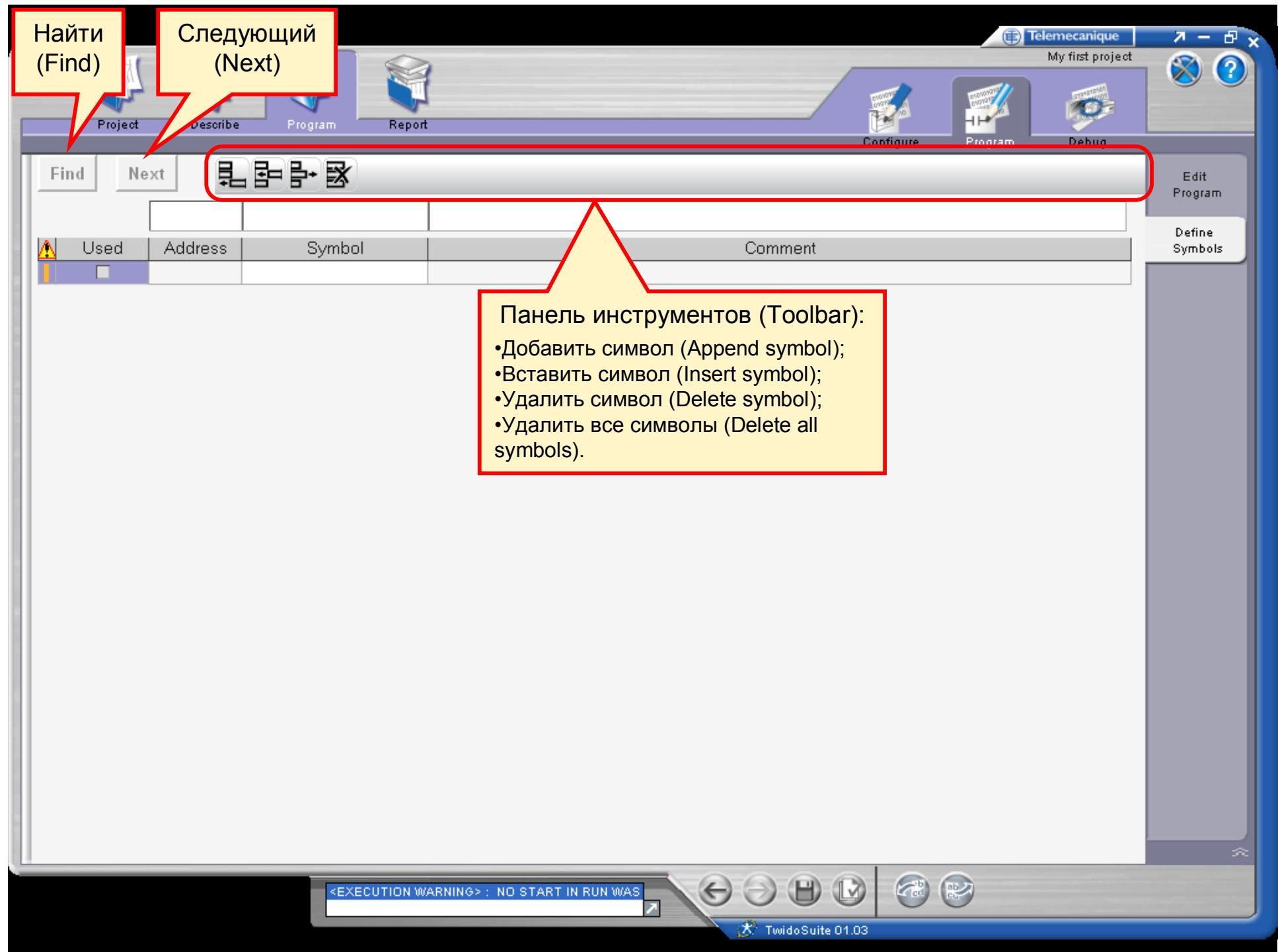


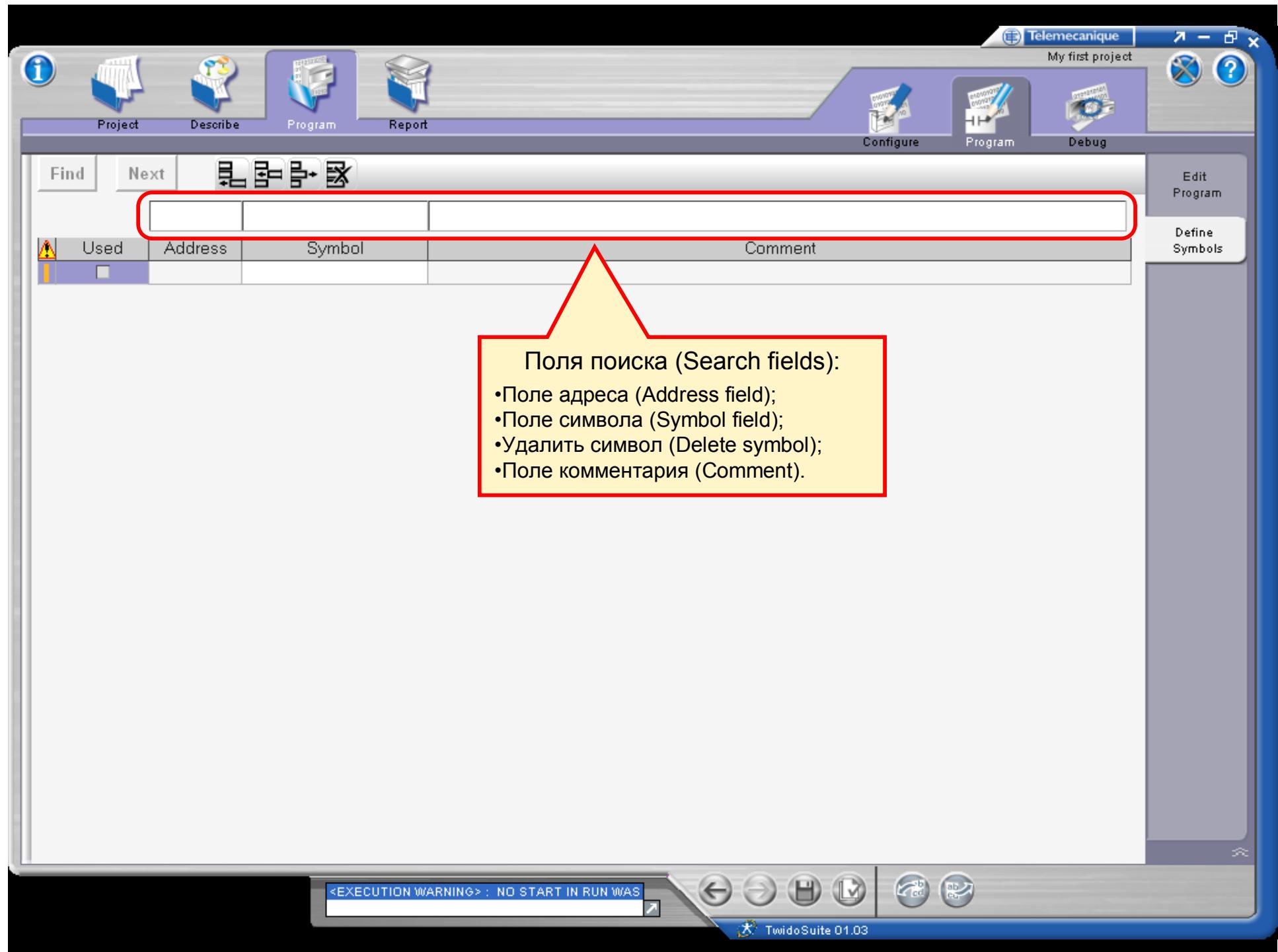


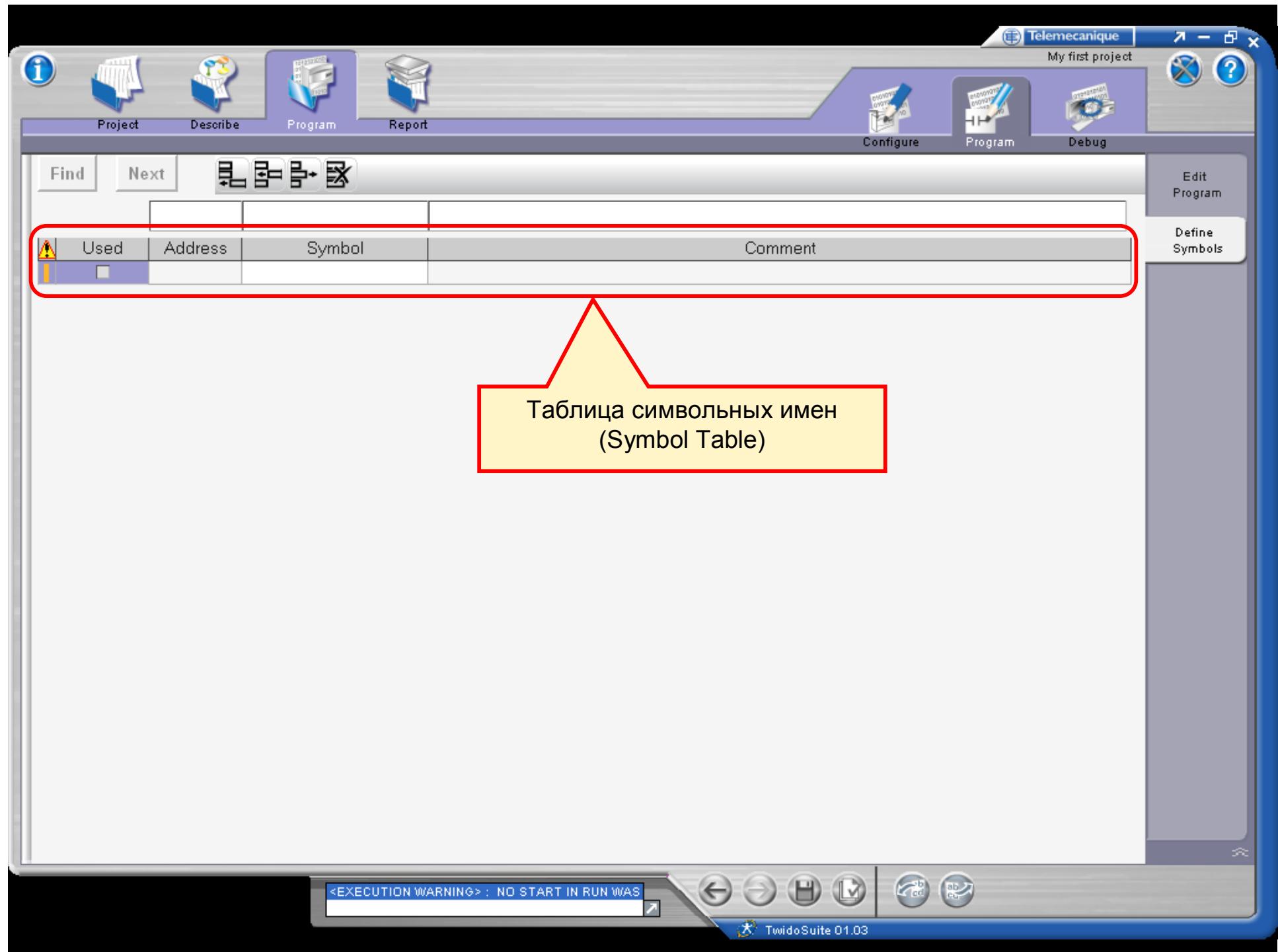
# Редактор СИМВОЛЬНЫХ ИМЕН











Указатель искомого элемента

Report

Configure

Program

Debug

Find

Used

	Address	Symbol	Comment
<input checked="" type="checkbox"/>	%I0.0	INPUT_A	Вход_A
<input checked="" type="checkbox"/>	%I0.1	INPUT_B	Вход_B
<input checked="" type="checkbox"/>	%Q0.0	OUTPUT_1	Выход_1
<input checked="" type="checkbox"/>	%Q0.1	OUTPUT_2	Выход_2
<input type="checkbox"/>	%Q0.3	OUTPUT_3	Не задействован
		OUTPUT_4	

Комментарий (Comment)

Символьное имя (Symbol)

Физический адрес входа (Address)

Занятость в программе (Used)

Предупреждение (Warning)

EXECUTION WARNING : NO START IN RUN WAS

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Telemecanique

My first project

Edit Program

Define Symbols

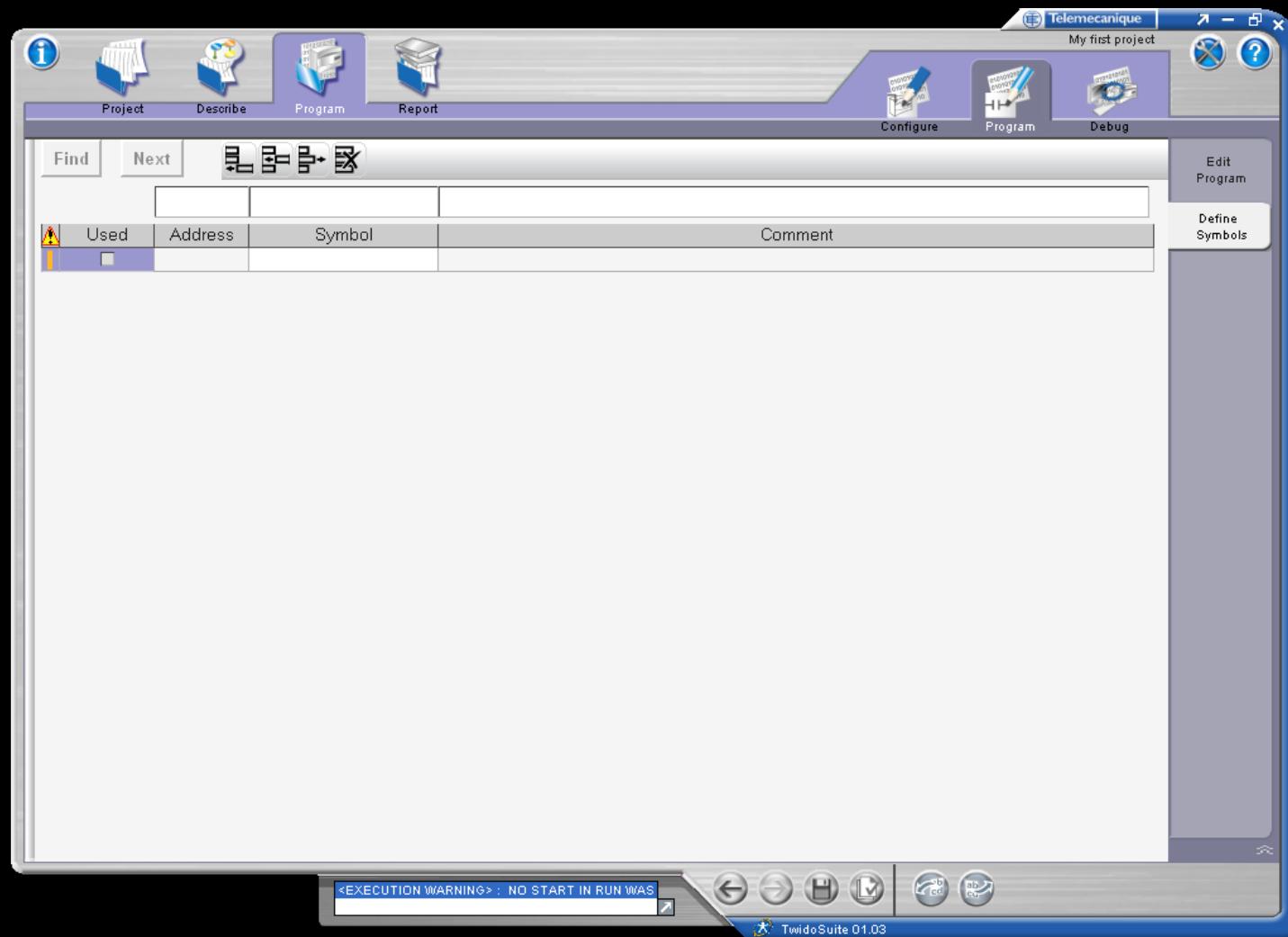
The screenshot shows a software interface for managing I/O symbols. A table lists symbols with their addresses and comments. Red arrows and callout boxes highlight specific columns and rows, with labels in Russian:

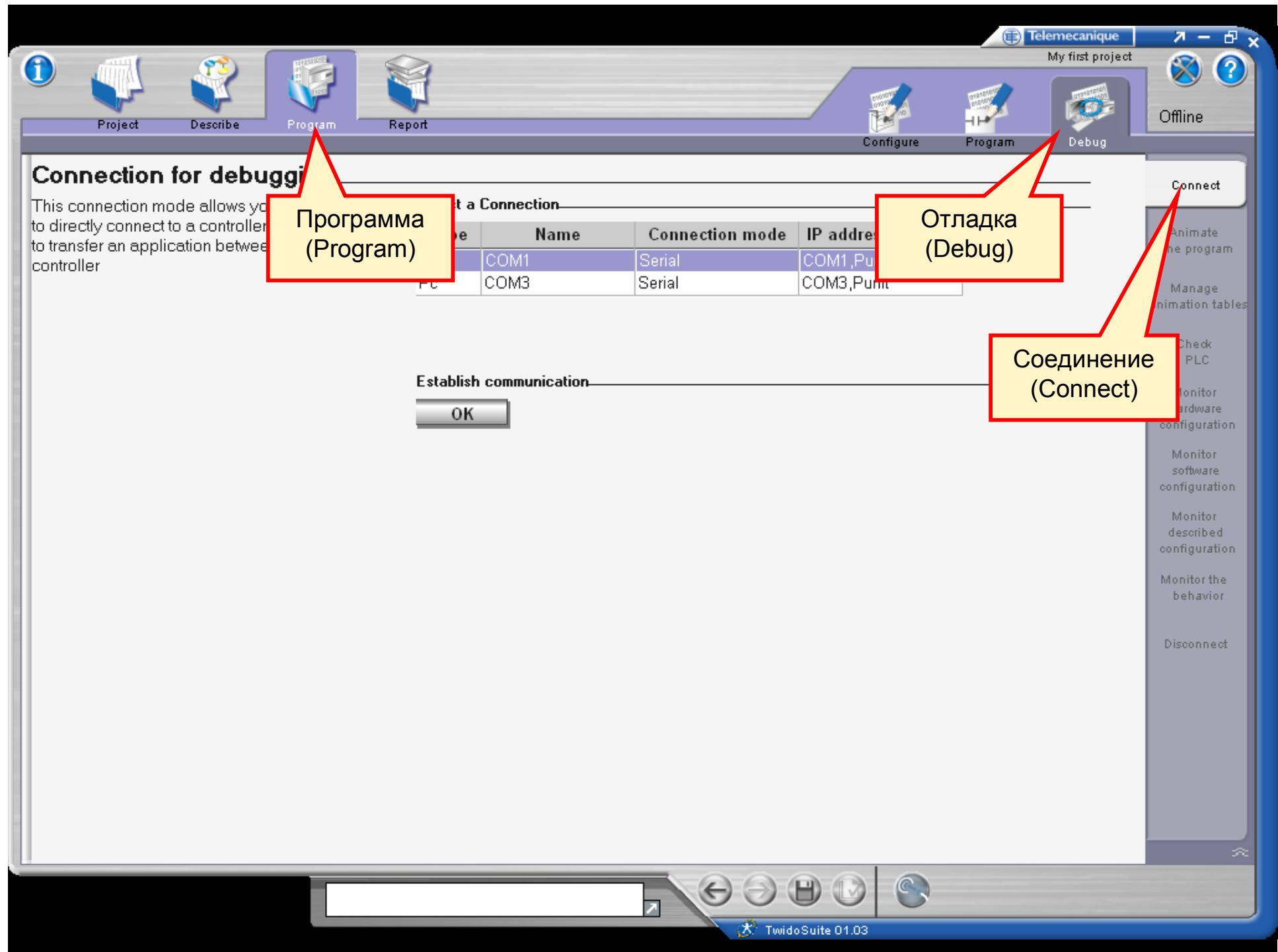
- Указатель искомого элемента (Search indicator) points to the first row.
- Комментарий (Comment) points to the 'Comment' column.
- Символьное имя (Symbol) points to the 'Symbol' column.
- Физический адрес входа (Address) points to the 'Address' column.
- Занятость в программе (Used) points to the 'Used' column.
- Предупреждение (Warning) points to the 'Warning' column.

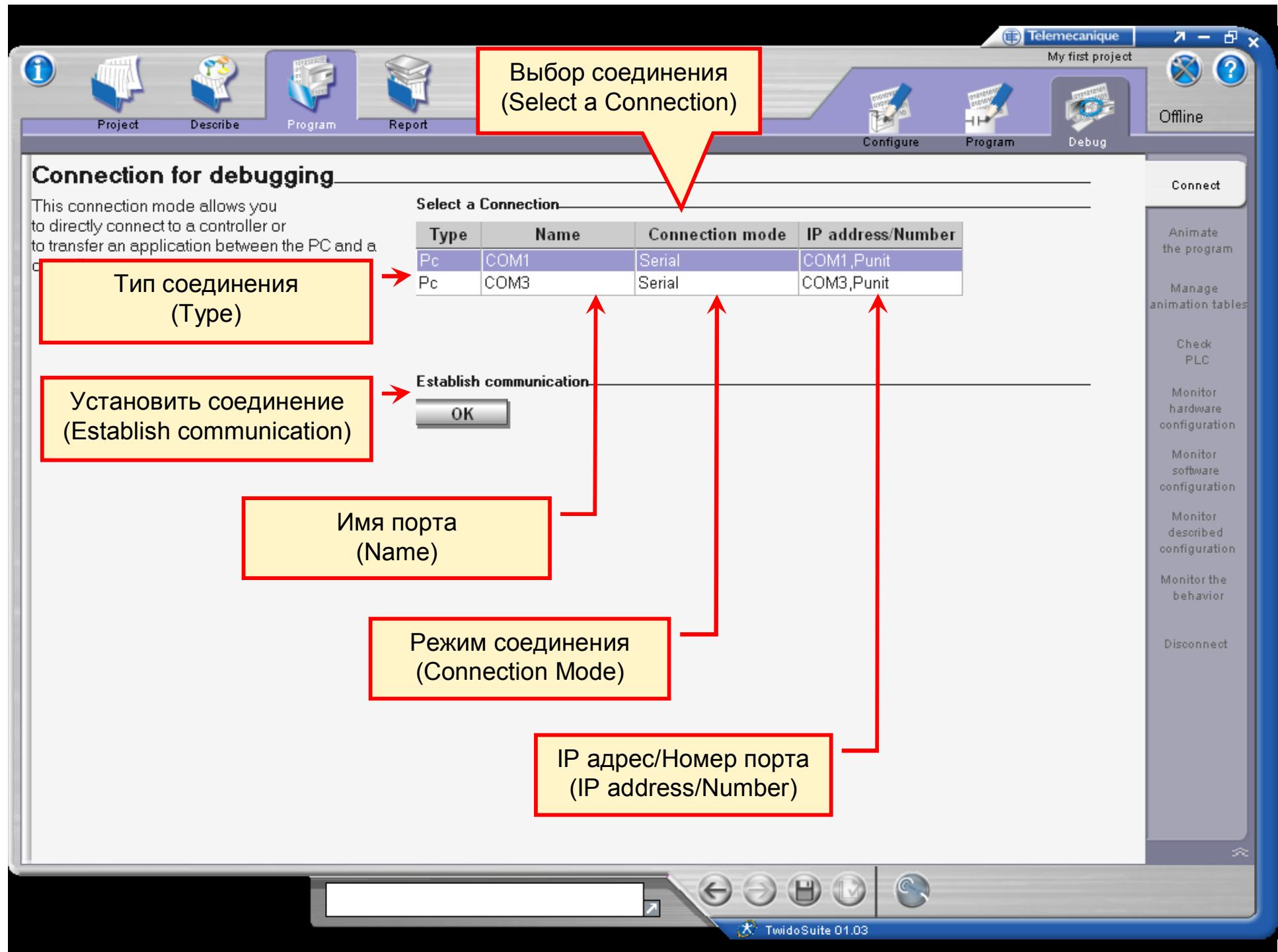
The table data is as follows:

	Address	Symbol	Comment
<input checked="" type="checkbox"/>	%I0.0	INPUT_A	Вход_A
<input checked="" type="checkbox"/>	%I0.1	INPUT_B	Вход_B
<input checked="" type="checkbox"/>	%Q0.0	OUTPUT_1	Выход_1
<input checked="" type="checkbox"/>	%Q0.1	OUTPUT_2	Выход_2
<input type="checkbox"/>	%Q0.3	OUTPUT_3	Не задействован
		OUTPUT_4	

# Соединение ПК с Twido







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Project Describe Program Report Configure Program Debug Offline Connect

Animate the program  
Manage animation tables  
Check PLC  
Monitor hardware configuration  
Monitor software configuration  
Monitor described configuration  
Monitor the behavior  
Disconnect

## Connection for debugging

This connection mode allows you to directly connect to a controller or to transfer an application between the PC and a controller.

**Select a Connection**

Type	Name	Connection mode	IP address/Number
Pc	COM1	Serial	COM1,Punit
Pc	COM3	Serial	COM3,Punit

**Данные текущего проекта (Project)**

**Данные в контроллере (Controller)**

**The communication has been established**

**Имя приложения (Application Name)**

**Тип процессорного модуля (Type of base)**

**Подтвердить (Confirm your type of exchange)**

**Test the connection**

The TwidoSuite and the PLC application names are different:  
Hardware configurations are compatible:  
PC => PLC Transfer is possible  
PLC application is not protected:  
PLC => PC transfer is authorized

**Comparison of applications**

	Project	Controller
Application Name	Mon Twido	Mon Twido
Type of base	TWDLMDA20DRT	TWDLMDA20DRT

**Choose a type of exchange**

Dialogue without transfer      Transfer PC => controller      Transfer controller => PC

Confirm your type of exchange

OK Cancel

TwidoSuite 01.03

Telemecanique My first project

Project Describe Program Report Configure Program Debug Offline Connect

**Connection for debugging**

This connection mode allows you to directly connect to a controller or to transfer an application between the PC and a controller.

**Select a Connection**

Type	Name	Connection mode	IP address/Number
Pc	COM1	Serial	COM1,Punit
Pc	COM3	Serial	COM3,Punit

**The communication has been established**

**Test the connection**

The Twidos immediate Hardware configuration

PC ==> PLC Transfer is possible

PLC application is not protected:

PLC ==> PC transfer is authorized

**Comparison of applications**

Project	Controller
Application Name	Mon Twido
Type of base	TWDLMDA20DRT

**Choose a type of exchange**

Dialogue without transfer      Transfer PC ==> controller      Transfer controller ==> PC

**Confirm your type of exchange**

OK Cancel

**Выбрать вид обмена (Choose a type of exchange):**

- Диалог без передачи (Dialogue without transfer);
- Передача ПК → ПЛК (Transfer PC → controller);
- Передача ПЛК → ПК (Transfer controller → PC).

**Подтвердить (Confirm your type of exchange)**

Animate the program

Manage animation tables

Check PLC

Monitor hardware configuration

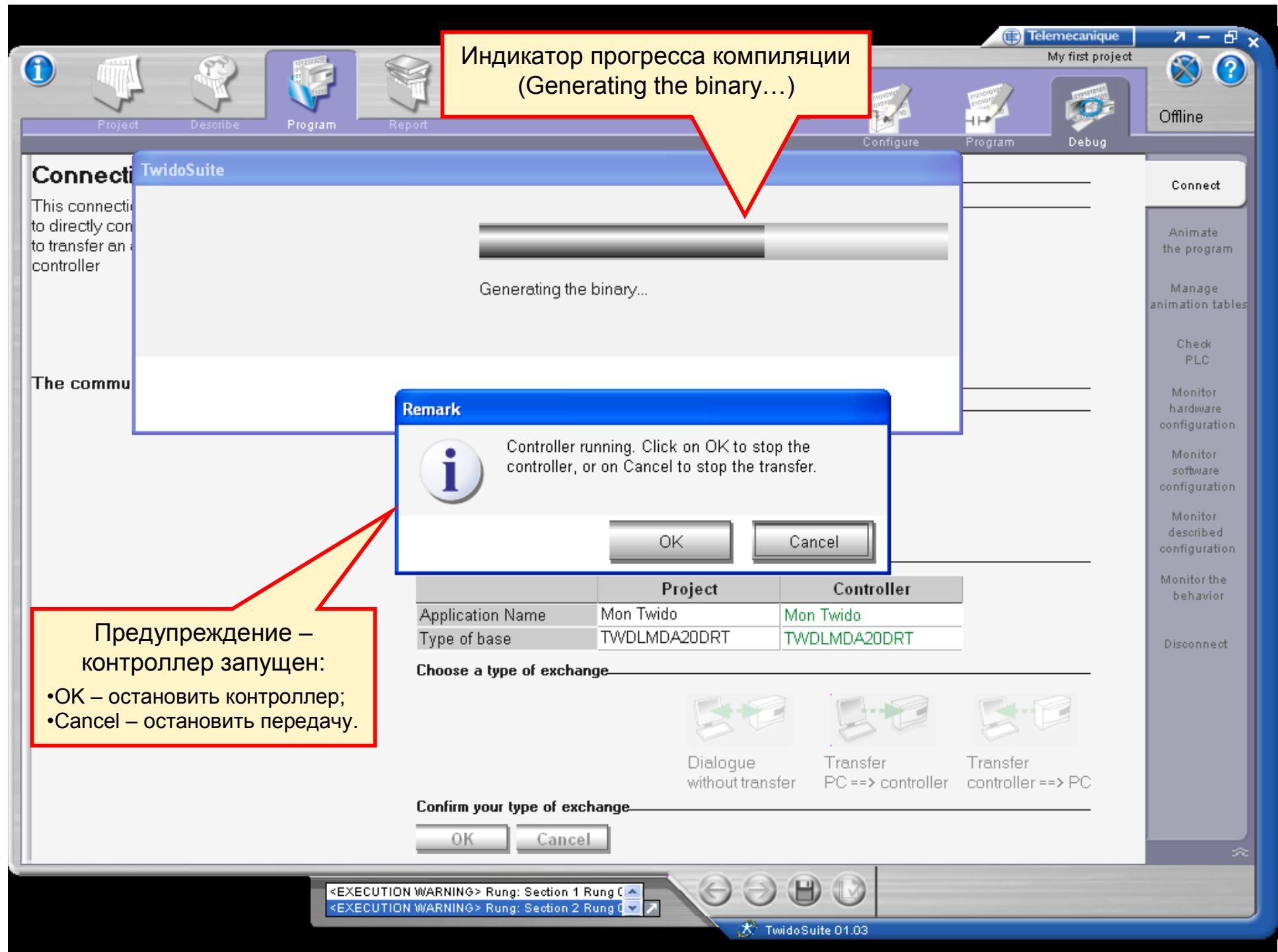
Monitor software configuration

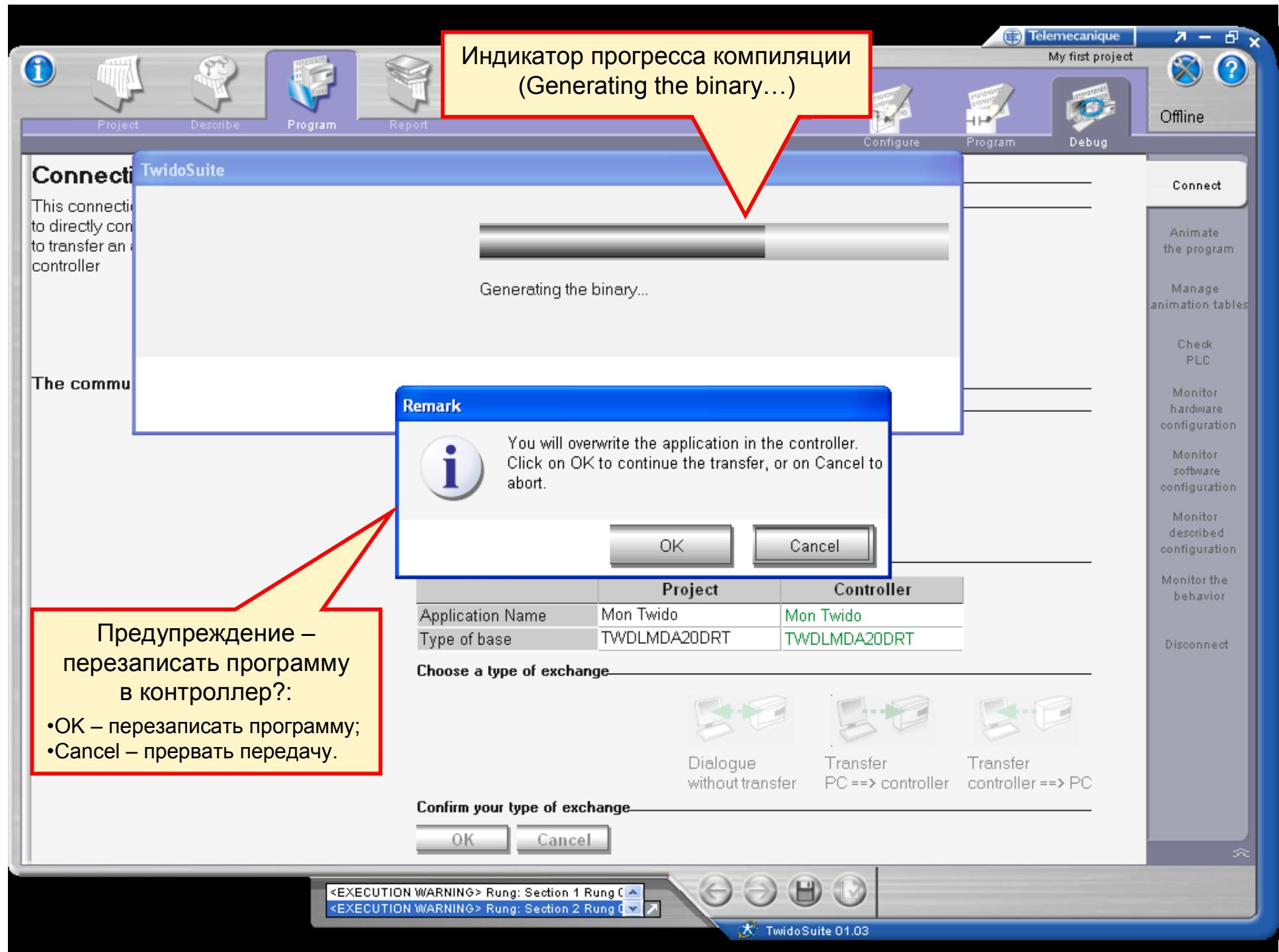
Monitor described configuration

Monitor the behavior

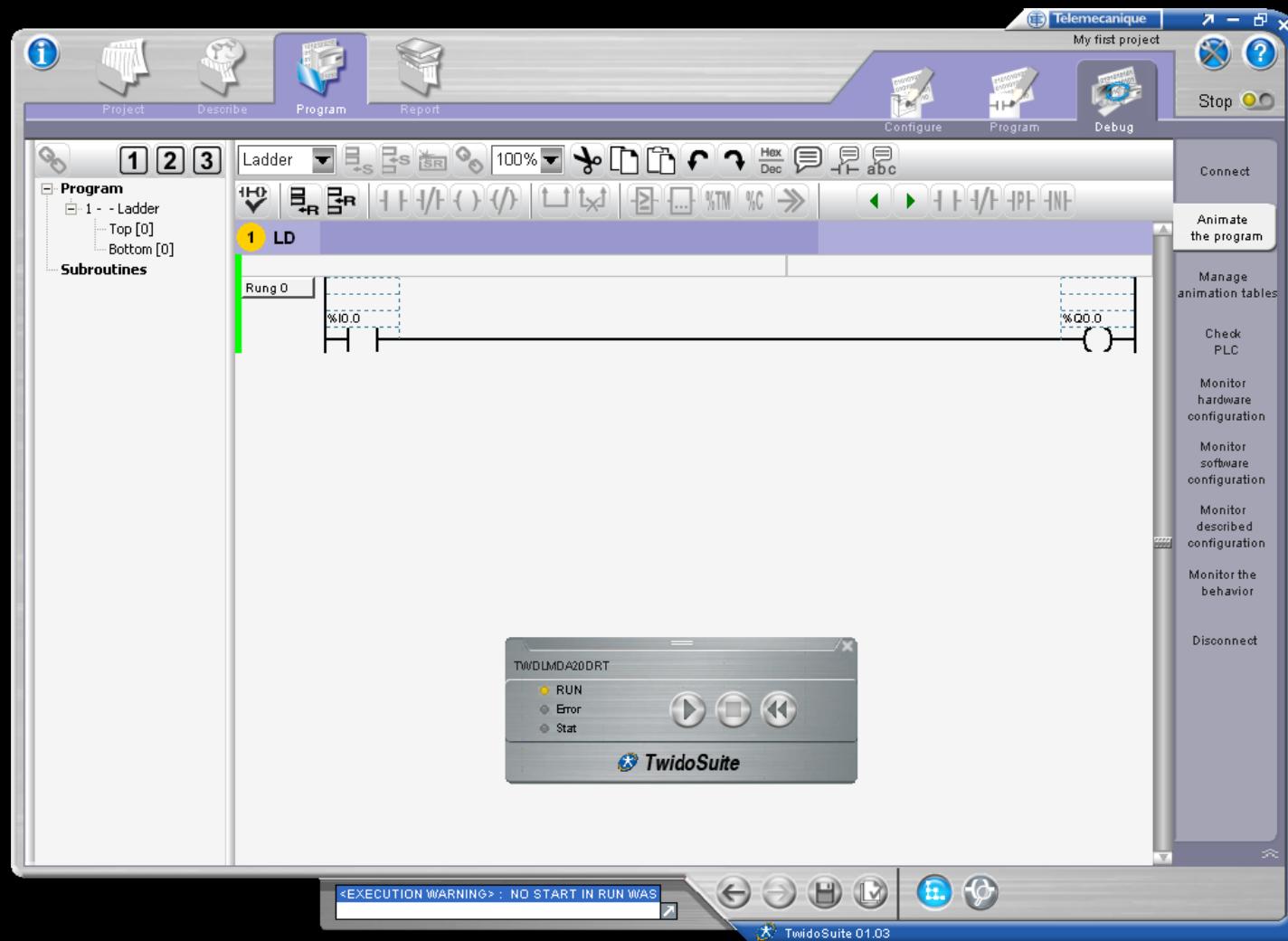
Disconnect

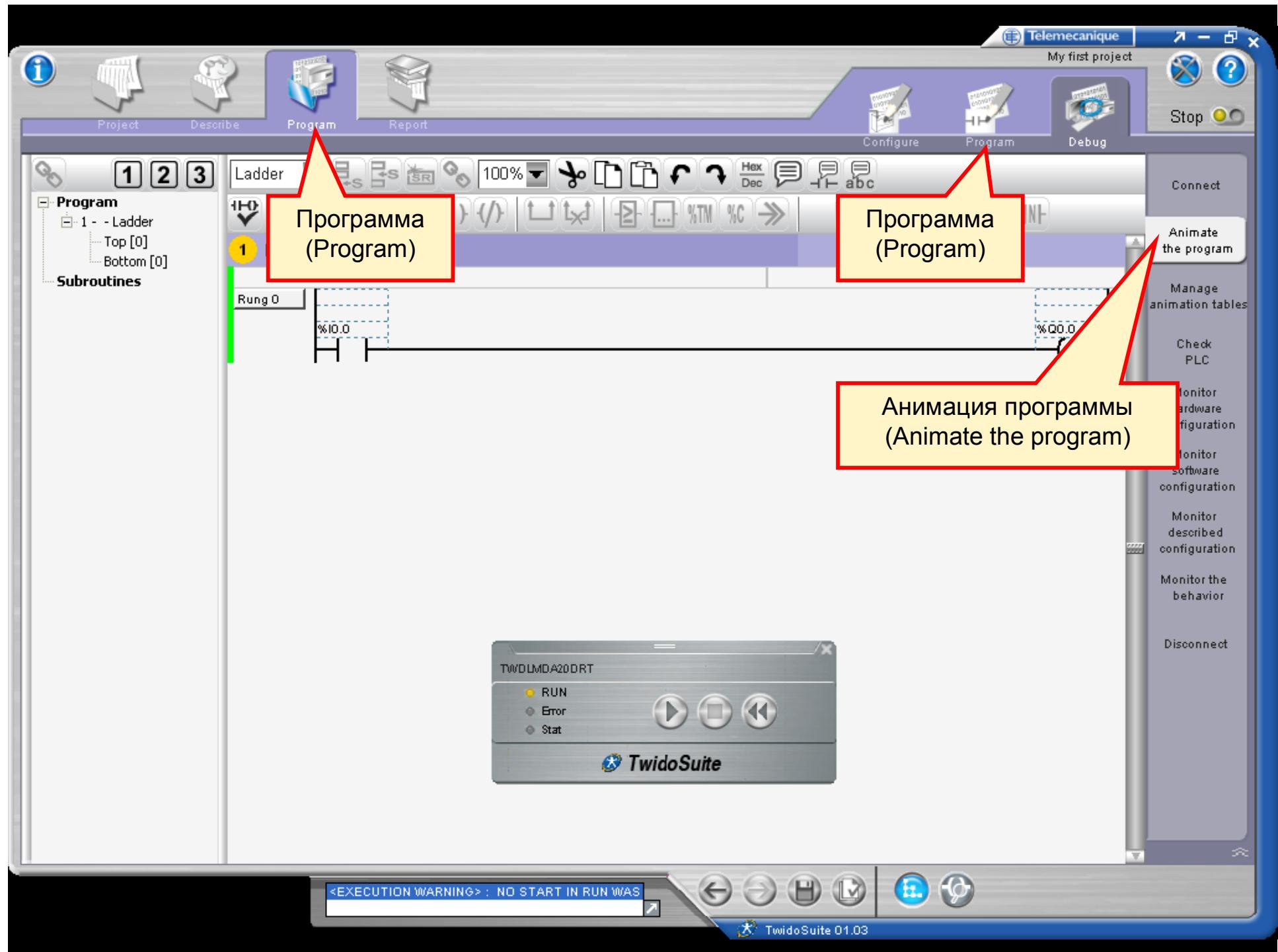
TwidoSuite 01.03

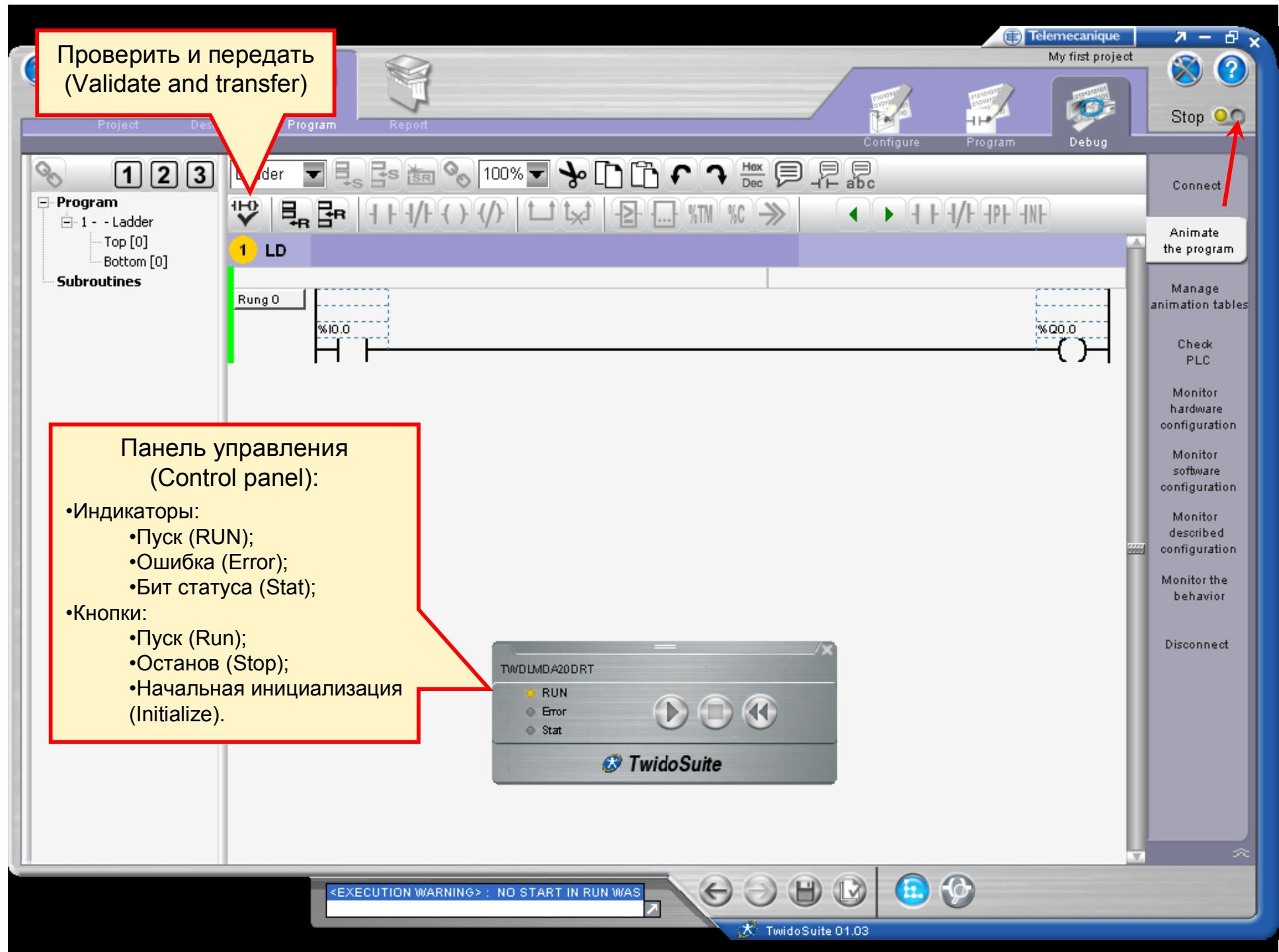


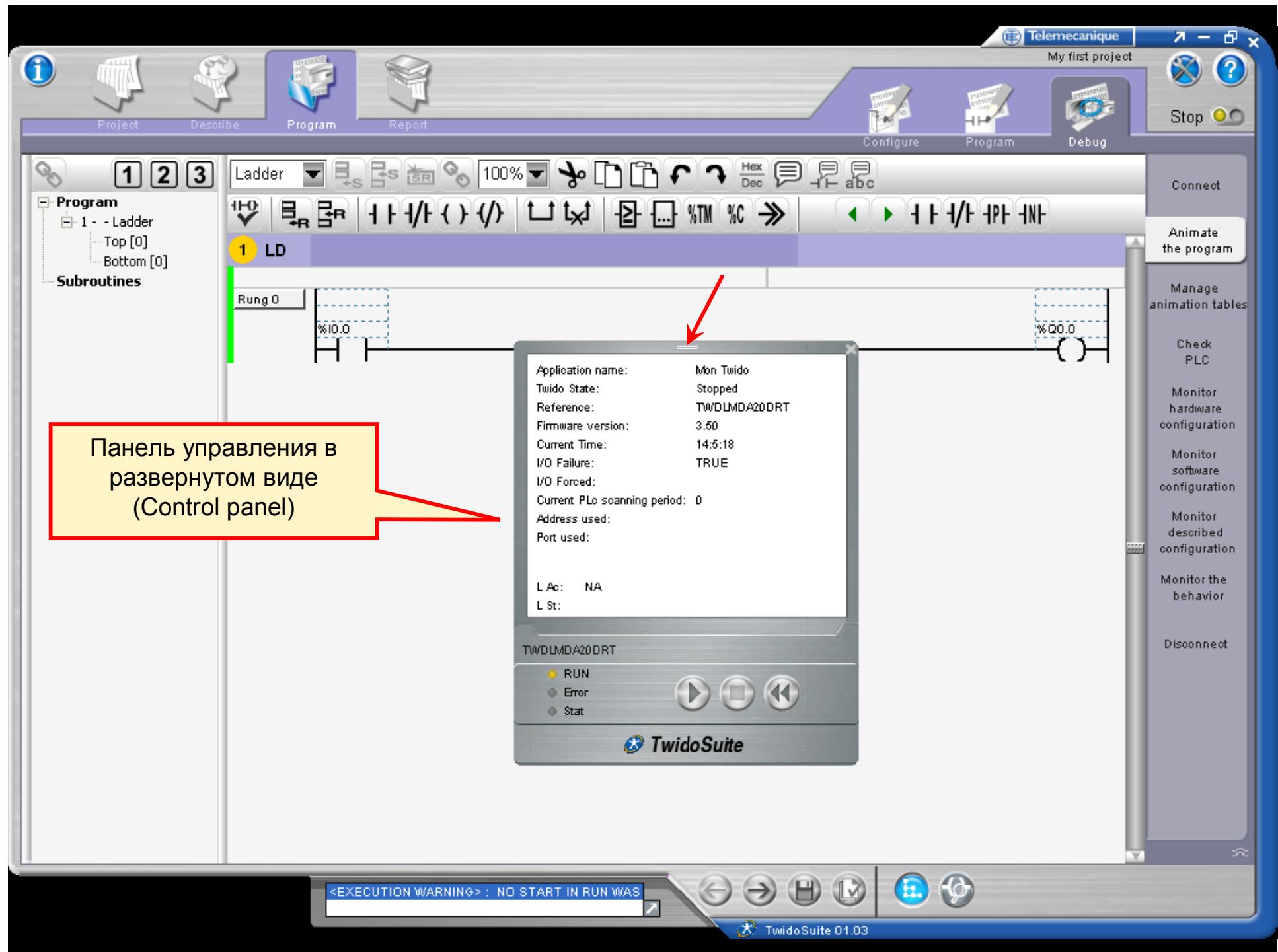


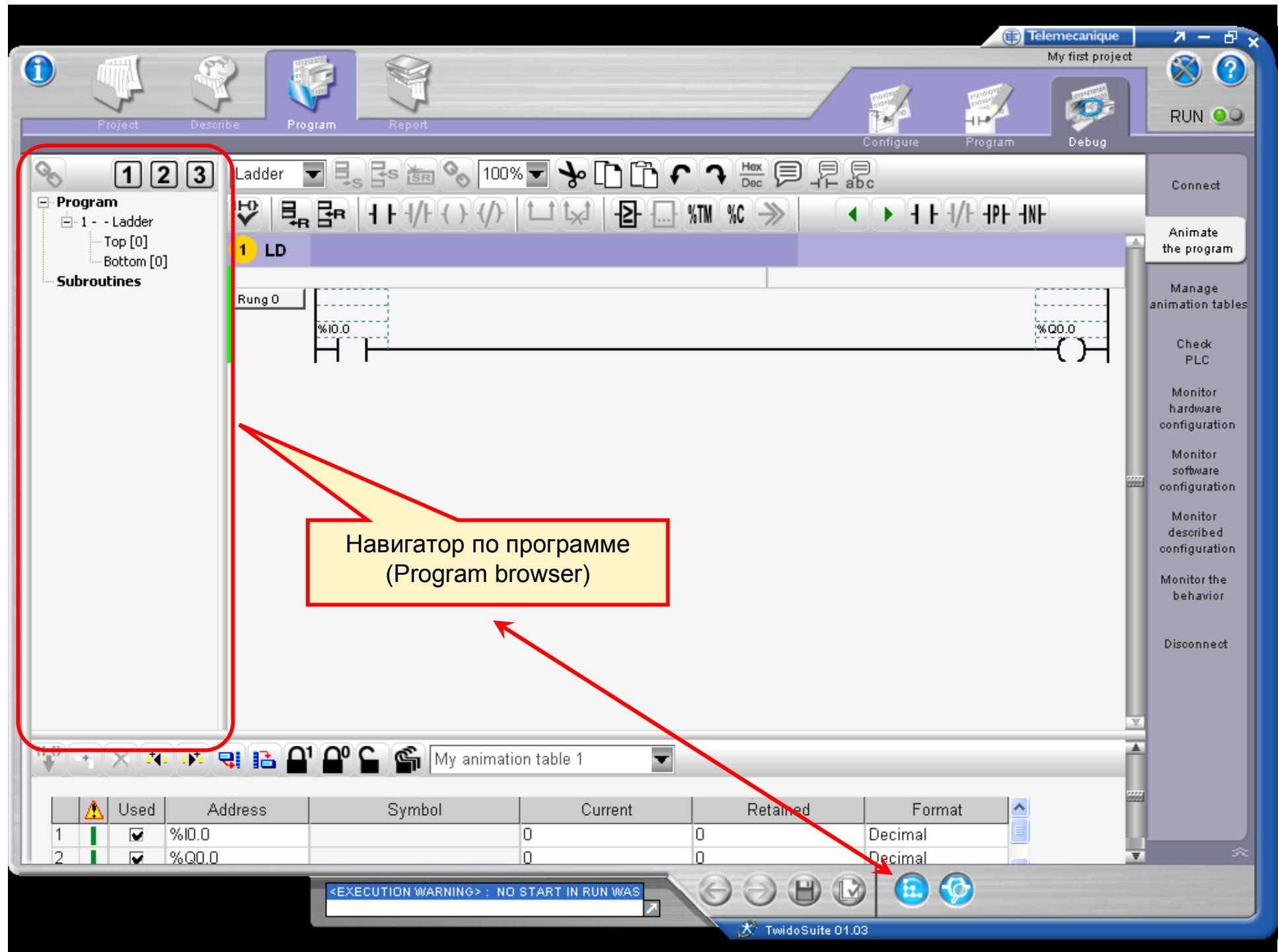
# Отладка в режиме анимации

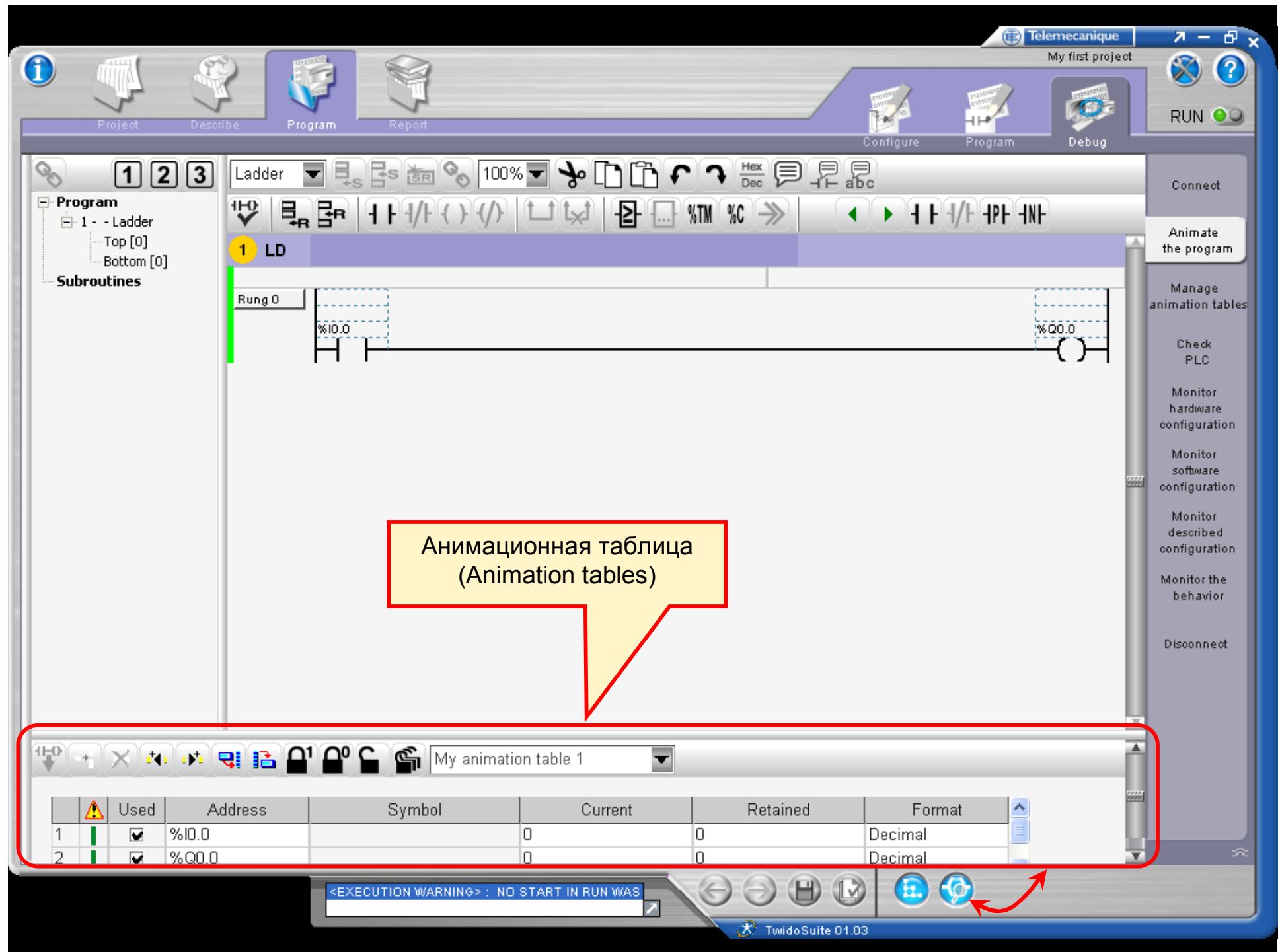


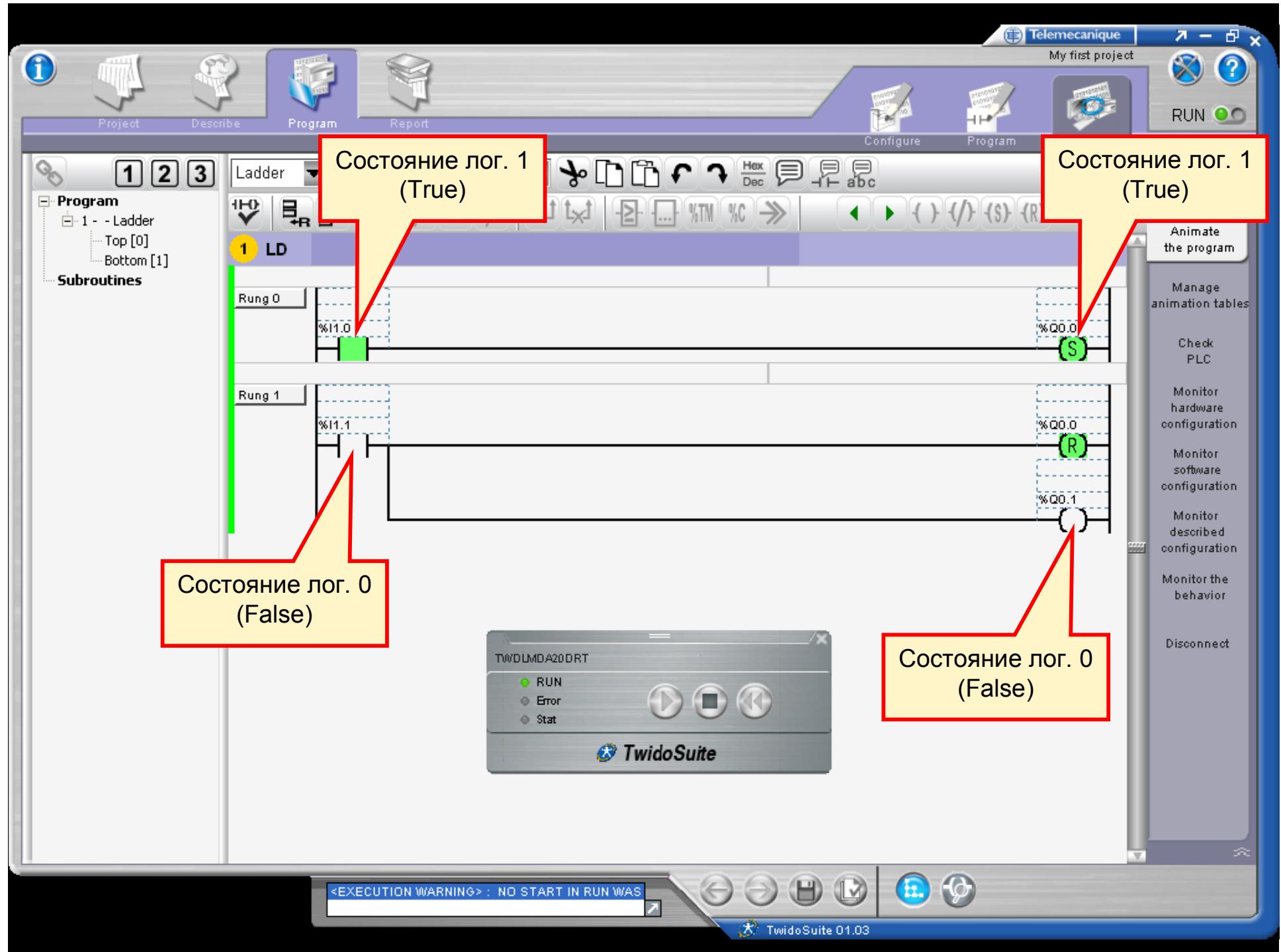


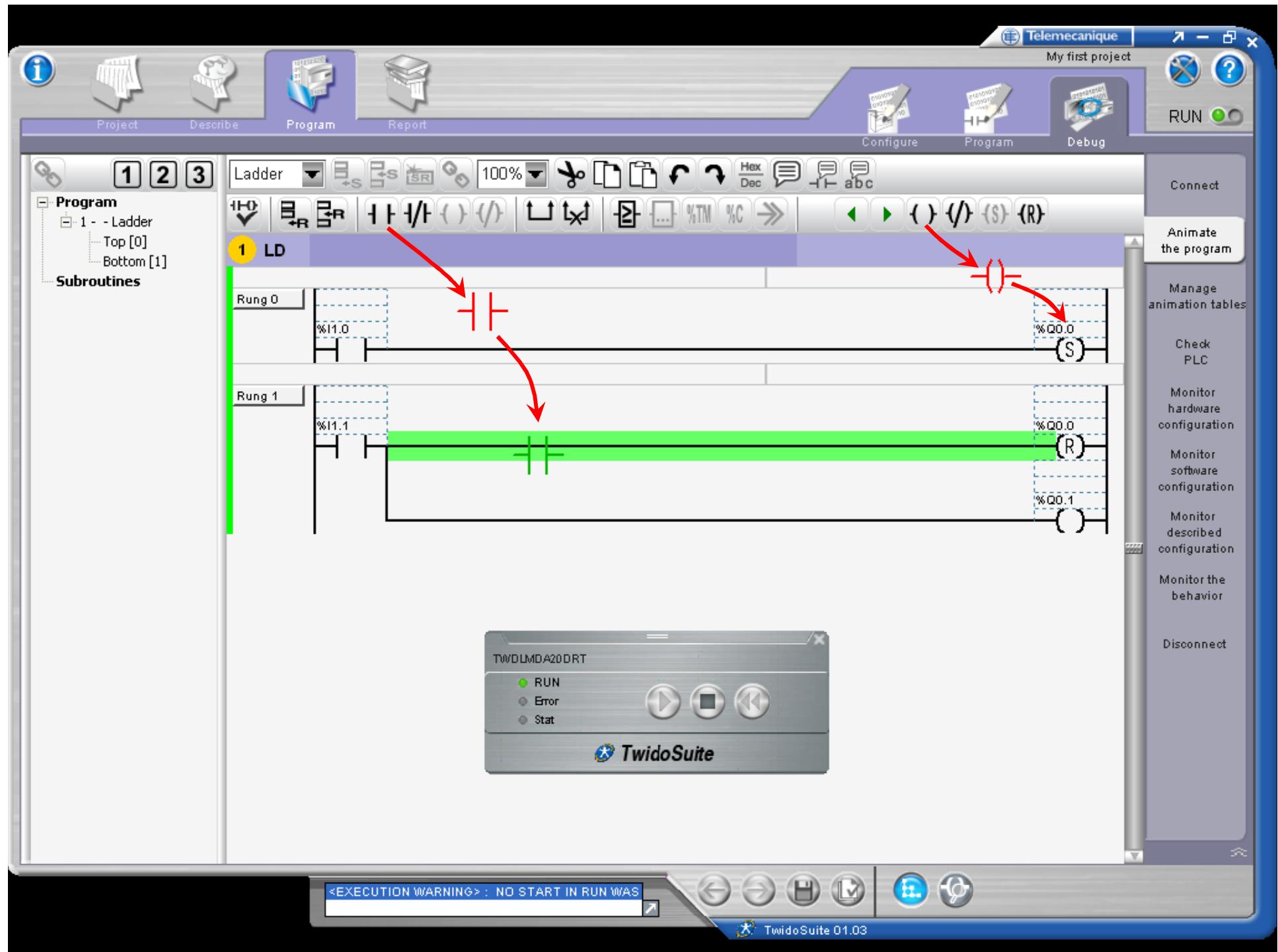




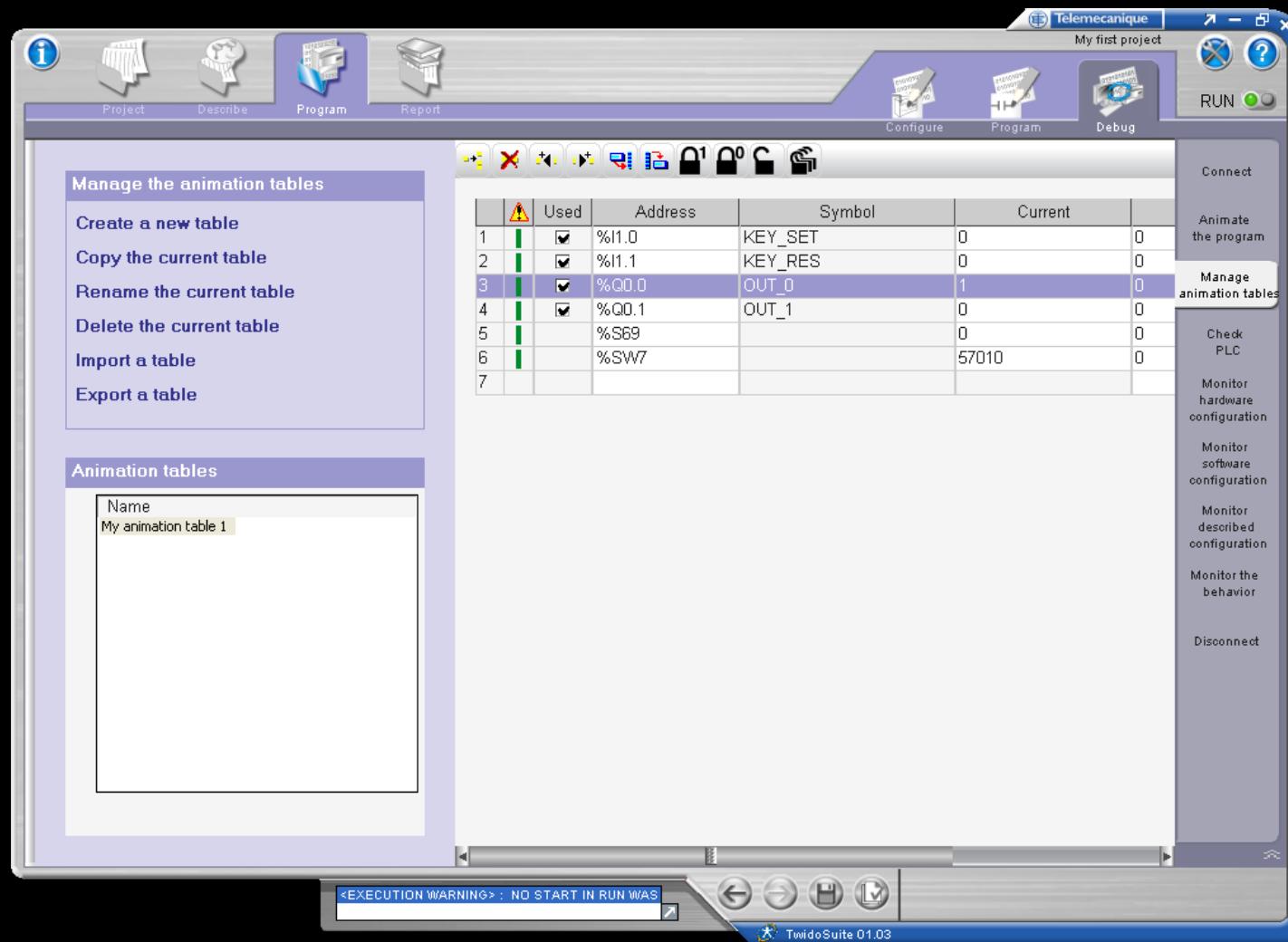


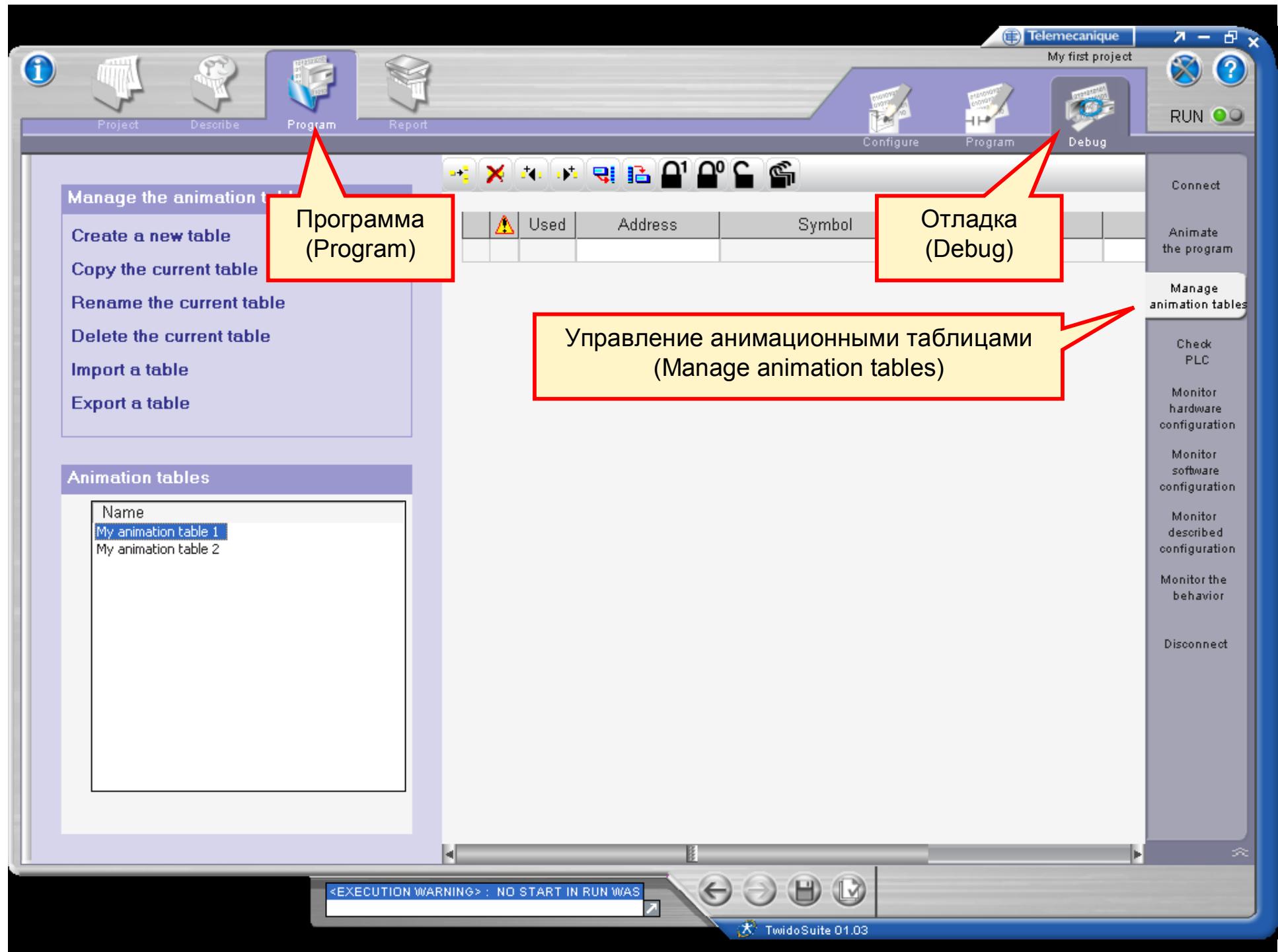






# Управление анимационными таблицами





Программа  
(Program)

Отладка  
(Debug)

Управление анимационными таблицами  
(Manage animation tables)

