| Unit 1: Program Basics	Skill Builder 1: Introducing the Program Editor

In this first lesson for Unit 1, you will learn about the TI-Nspire™ CX Program Editor and how to write, store and run your first program.

Objectives:

- Launch the TI-Nspire Program Editor
- Write your first program
- Store and run a program

Introducing the Program Editor

1. Start a **New Document**, and select **Add Program Editor > New…**.
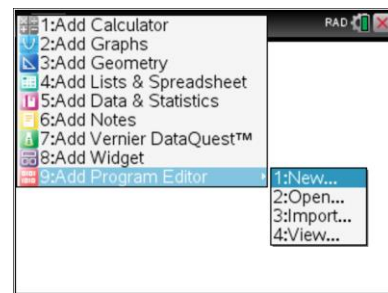
Tech Tip: Access the menu on the TI-Nspire™ App for iPad® by selecting 🔧.

2. In the Name field, type the name of your first program, *hello.*

3. Leave the Type as **Program** and the Library Access as **None**. We'll discuss Type in a later lesson.

4. Click **OK**, or press **enter**.

Teacher Tip: TI-Nspire programs are written in a Program Editor app and run in a Calculator app or within a Notes app Math Box.

The Program Editor is used to write programs or functions (see Type). While they look very much alike, their usage and behavior differ greatly.

Some of the features and statements used in these lessons require TI-Nspire OS version 4.5 or higher. In this version there are now two ways to create a Program Editor app:

1. Create a **New Document,** or insert a page (**ctrl+doc**) and select **Add Program Editor**.
2. From within a Calculator app, press **menu**, and select **Functions & Programs**.

In these lessons, we use the first method from the beginning but the second, split-screen method can be helpful to see both the code and the results of running the program on the same page. This makes it easy to edit the code and test the program side-by-side on the same page.

Library Access makes it possible to run this program in other problems or documents. With Library Access set to None, only the current problem in the current document has access to the program. Library Access is not covered in the 10 Minutes of Code lessons.

Your screen should now look like the image to the right. Your program code belongs inside the **Prgm…EndPrgm** block within the editor. You cannot type anything outside this area (with one exception we'll discuss later). These keywords cannot be edited.

All programming commands are found in the menu.

5. With the text cursor inside the dotted box in the editor, select **menu > I/O > Disp**. The keyword **Disp** is pasted into your program.
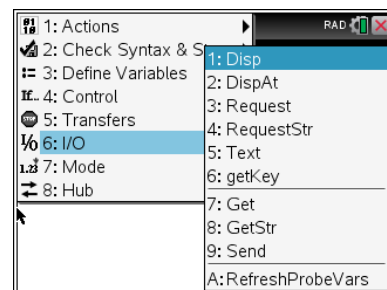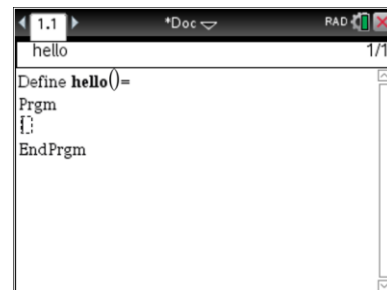
Teacher Tip: Programming keywords like *Disp* can also be typed character by character. For beginners, it's easiest to select them from the menu to avoid spelling errors.

6. Next, type the quotation (literal string) template **" "** by pressing **ctrl** and then the **multiplication** key.

7. Inside the quotes, type the text *Hello, World!* Use the shift key for capital letters, and press the ⌨️ key to select the exclamation point.

Note: You *must* type the quotes before typing the text.
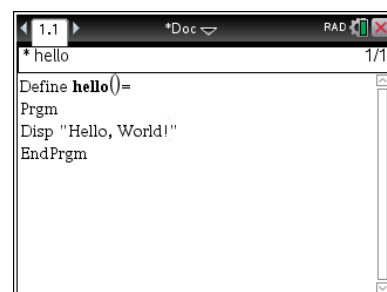
8. Before running any program, you must first 'store' the program to memory. To store the program, select **menu > Check Syntax & Store > Check Syntax & Store** (or use the shortcut **ctrl+B**). You should see '"<program name>" stored successfully' at the top of the screen.

Note: An asterisk (*) in front of the program name indicates that the program has changed but has not been stored.
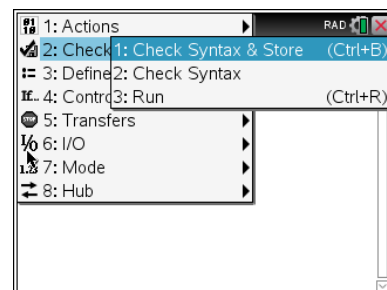
Teacher Tip: *Check Syntax* looks for grammatical errors in the program. *Store* looks for grammatical errors and stores the program in the variable within the document. If there is a syntax error, a message appears on the screen. Whenever a program is edited, there is an asterisk to the left of the program name at the top of the editor. This indicates that the program has been changed, but not yet stored.

There are now two ways to run a program:
Within a Calculator app, press **var**, select the program name, and press **enter**.

> In the Program Editor for OS version 4.5 and higher, press **menu > Check Syntax & Store > Run (ctrl+R)**. This pastes the name of the program to a Calculator app. Press **enter** to run the program.
>
> To check the OS version, press ⌂on, and then select **Settings > Status**.

9. To run the program press **ctrl+R**. This is a shortcut for **menu > Check Syntax & Store > Run** which checks syntax (grammar), stores the program, adds a Calculator app on a new page after the Program Editor page, and pastes the program name into the Calculator app. Press **enter** to run the program.

The word *Done* indicates that the program has completed.

10. To view or edit the program, switch to the previous page by pressing **ctrl+left arrow** or by clicking the page number tab at the top of the screen.

> **Teacher Tip:**
> Menu option **Run** (**ctrl+R**) does not *always* add a new page to the document. If the page following the Program Editor already contains a Calculator app, then **ctrl+R** simply activates that app and pastes the program name onto the edit line, ready for the user to press **enter** to run the program. If a Calculator app is on the *same page* as the Program Editor (a 'split-screen' layout), then **ctrl+R** pastes the program name into the Calculator app instead of adding a page.
>
> The program may not run because arguments might be needed. Arguments are discussed in a later lesson.

11. Save the document as ***hello program***. This ensures that you will have access to this program in the future.

Congratulations! You've written your first TI-Nspire CX Basic program.

> [icon] **Tech Tip:** To save the document on a TI-Nspire handheld:
>
> Select **doc > File > Save** or **Save As…**
>
> or
>
> Select **ctrl+S**.
>
> Be sure to notice the folder into which the file is being saved.