



Unit 1: Program Basics and Displaying on Screen

Skill Builder 3: Output to the HOME screen

In this third of the three Skill Builders in Unit 1 you will practice editing a simple program and learn how to place text anywhere on the HOME screen using the **Output** statement.

Objectives:

- Use the TI Basic **Output** statement to control the position of text displayed on the HOME screen.
- Use the **Pause** statement to prevent a program from ending too soon.

Teacher Tip: This lesson introduces two new statements: **Output**(and **Pause**. Emphasize that learning this programming language is a building process and that previously learned statements should not be forgotten. The **Output**(statement takes three arguments and a closing parenthesis. The **Pause** statement has an optional argument that we will not deal with now.

Turn on your TI-84 Plus CE and press the **PRGM** key.

Select **NEW** using the arrow keys.

Press **ENTER** to create a new program and enter a name for the program. We will use OUTDEMO1 here. Note that to type the digit “1” we have to press **ALPHA** to turn alpha mode *off*.

```
NORMAL FLOAT AUTO a+b1 RADIAN MP
PROGRAM: OUTDEMO1
: █
```

Using Output(Statements

Start your program with the **ClrHome** statement from the **PRGM** key **I/O** menu.

Remember to press **ENTER** at the end of the line.

Next, select the **Output**(statement from the same menu.

The HOME screen is divided into an invisible grid of characters. The Output statement will place your text starting at one of these grid positions using the line number and column number of that position. The upper left corner is line 1, column 1.

So, after the open parenthesis in the Output statement, type **3,5,“HELLO”**)

Remember to close the parentheses.

```
NORMAL FLOAT AUTO a+b1 RADIAN MP
PROGRAM: OUTDEMO1
:ClrHome
:Output( █
```

```
NORMAL FLOAT AUTO a+b1 RADIAN MP
PROGRAM: OUTDEMO1
:ClrHome
:Output(3,5,"HELLO")
```

Teacher Tip: (3, 5, “HELLO”) means that the letter “H” will be displayed at line 3, column 5 of the HOME screen. The TI-84 Plus HOME screen has 8 lines and 16 columns. The color calculators each have 10 lines and 26 columns due to the higher resolution of the screens.

Let’s run the program. The result should look like the screen to the right if you used the same values.



10 Minutes of Code

TI-84 PLUS FAMILY

Notice how 'Done' appears on the top line even though "HELLO" is displayed on the third line. The **Output(** statement has no effect on the current cursor position. The **ClrHome** statement positions the cursor in the top left of the screen, so the 'Done' is then displayed on the top line.

Adding the Pause Statement

Edit your program and add the **Pause** statement below the **Output(** statement.

You will find **Pause** on the **PRGM** key **CTL** menu. **CTL** is short for 'Control' and the menu contains statements that *control* the behavior of the program.

Run the program again and see what happens. See that the 'Done' is now missing?

Look closely in the top right of the screen and you'll see the 'busy' indicator. That's the **Pause** statement at work. The program is paused at this point and the user must press **ENTER** to continue. Then the 'Done' message appears at the top of the screen.

Teacher Tip: The color calculators have a spinning circle 'busy signal' in the upper right corner of the screen next to the battery icon. The TI-84 Plus has a blinking 'worm' (vertical segment) in the upper right corner of the screen. These are an indication to 'Press enter to continue...'.

Adding More Output(Statements to Your Program

Test to see what happens when there's not enough room to display the message on the line.

Answer: The text wraps around to the beginning of the next line.

Add a statement at the bottom of the program so that you end the program with a clear screen.

Answer: Add another **ClrHome** statement after the **Pause** statement.

UNIT 1: SKILL BUILDER 3

TEACHER NOTES

