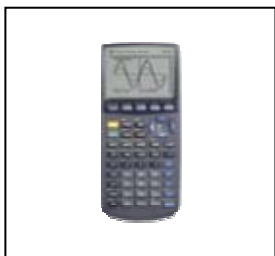


## Simple Programming

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Carefully read the following and put the "Distance" program into your TI 83+/ 84.

### Program 1: Distance between two points

Turn on the TI-83 (ON) and press the program button (PRGM). The following screen will appear:



There may be a list of program names in addition to the three choices at the top of the screen.

There are three choices; EXEcute, EDIT a program, or create a NEW program.

We want to create a **new program called distance**.



To create a **new** program, press the right arrow twice and highlight the word **new**. At this point there is only one choice. Select choice I by pressing the number 1.

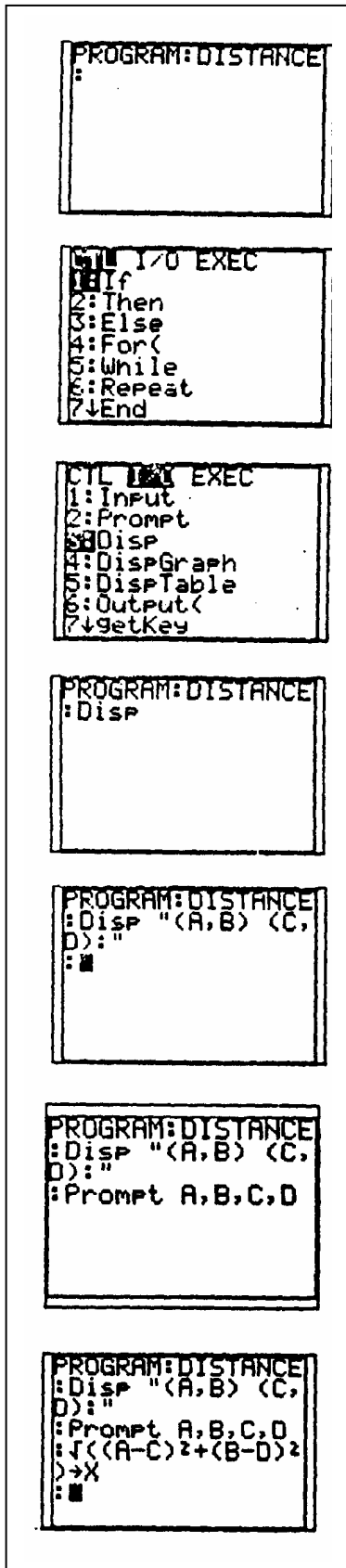
Notice that the cursor has changed. It is a solid, flashing A. This means that the alpha lock is on, Only letters can be entered. Pressing the alpha key first accesses the green letters and symbols on the calculator.

When the alpha lock is on, alpha does not have to be pressed for each letter

Type the word distance. The letters are above the keys. Names of TI-83 programs must be 8 letters or less.

The checkerboard cursor means you cannot type anymore.





appear across the top

of the screen. The cursor is blinking on the first line of the program.

Directions need to be displayed on the screen so that the person running the program will know what to do. For the sake of brevity, simply display "(A, B) (C, D):". This will probably be enough to remember what this program does when it is run in the future. On the TI-82/83 do NOT type commands, like display, on the first line. Instead press the program key (PRGM) and find the command and select it so that it pastes the word on the screen. To find **display (Disp)**, press PRGM, then press the right arrow once, and pick choice 3.

The word **Disp** now appears on the first line of the program. At this time, type exactly what is to appear on the screen. **Any text needs to be within quotation marks.** The quotation marks are above the + sign. Remember that since they are in green, press the alpha key first and then the + sign. Now type the rest of the line. To get the space, press ALPHA and the zero. The symbol □ in green is space. To get the colon, which is in green above the period, press the 2nd key first and then the period. Remember the closing quotes. Press enter to begin the next line.

Now the calculator needs to **prompt** the user to input the values of A, B, C and D and store those values for the variables. To do that, press PRGM, go to the right once, and select choice 2, **Prompt**. Then type the four letters using the alpha key and separate the letters with commas (the key above the seven.) Press ENTER to begin the next line.

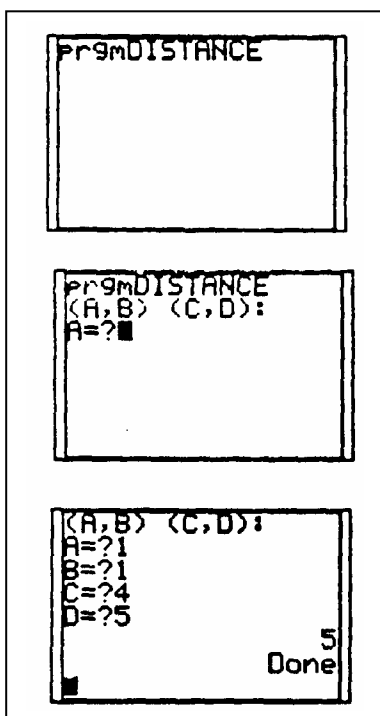
Next type the distance formula as on the left and store the answer in for some other variable, x. The arrow is found by pressing STO. Be careful of parentheses.

Make sure to use the subtraction key, which is above the + sign as opposed to the negative sign (-) which is to the left of enter. Remember to press the alpha key first to get the letters.

```
PROGRAM: DISTANCE
:Disp "(A,B) (C,
D):"
:Prompt A,B,C,D
:J((A-C)2+(B-D)2
:XX
:Disp X
:
```

Finally the program needs to display the answer, x. To get **Disp**, press the **PRGM** key and then the right arrow and choose number 3. Don't put quotes around the x, as the calculator should display the value of x, not the letter x.

Once the program is written, run it to see if it works. To return to the home screen and exit the programming mode, press 2nd quit (the mode key to the right of the 2nd key.) This will return the home screen. Press PRGM. The same three choices are across the top as before, but now the name distance as one of the choices. Choose the number for program DISTANCE.



This should have pasted the words **prgm** **DISTANCE** on the home screen. In order to actually execute the program, press ENTER. The message that was typed at the beginning is displayed followed by the prompts for the four letters. Enter values for A, B, C and D such as 1, 1, 4 and 5. Press enter after each entry. After pressing ENTER after the 5, the correct answer 5 will be displayed on the screen. If the correct answer is not displayed, there is a mistake of some sort within the program.. If the calculator stops you with a mistake, choose to go to the error and the calculator will take you to the exact line in the program where the problem occurred. Then edit the program and try again. Otherwise, to edit a program press PRGM and press the right arrow once to get into the edit mode. Then select the program **number** of the program you wish to edit.

Good Luck! Have fun.

For more information, See the manual.

