

Programming and Coding with the TI-84 Plus Graphing Calculator

Kelly Kutach

Texas Instruments

@TIKellyK

kkutach@ti.com

Why Coding?

- » Computer programming **jobs are growing** at 2x the national average.
- » Computing occupations are among the **highest-paying** jobs for new graduates.
- » By 2018, **51 percent** of all STEM jobs are projected to be in CS-related fields.

More reasons

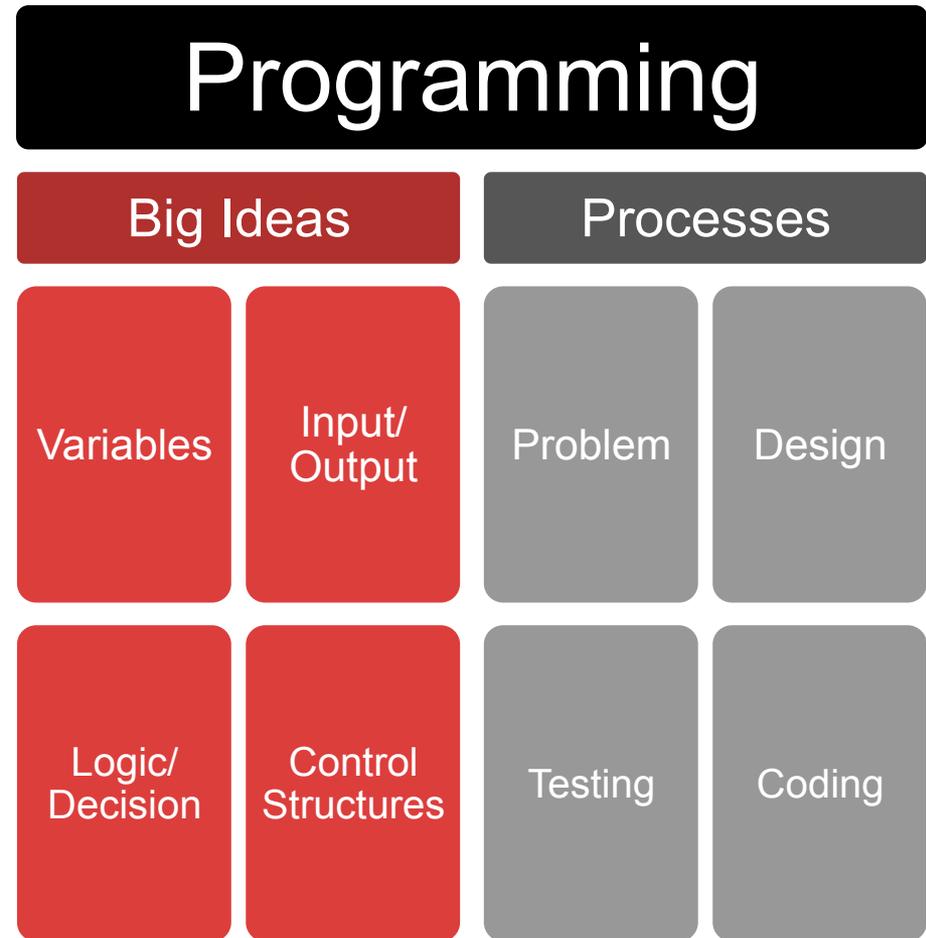
- » **9 of 10** parents wish computer science was taught in their kids' schools
- » **2.4%** of college students graduate with a degree in computer science.
 - » Only 12% of CS degrees are earned by women.
- » **NEW!** President's Computer Science for All plan
 - » 3 years, \$4B to support CS education in K-12

Coding in TX

- » Computing jobs are growing at **3.7x** the state average
- » Texas is the only state to require high schools to offer computer science to all students.
- » In Texas:
 - ✓ CS counts as math or science credit
 - ✓ CS counts as credit for HS graduation
 - ✓ Clear certification pathways for CS teachers
 - ✓ CS curriculum standards

Why Coding in Math Class?

- » Introductory experience that builds a foundation in coding
- » Spark an interest in coding
- » Strengthens math concepts
- » Learn coding on a TI-83, 84, 89 or Nspire



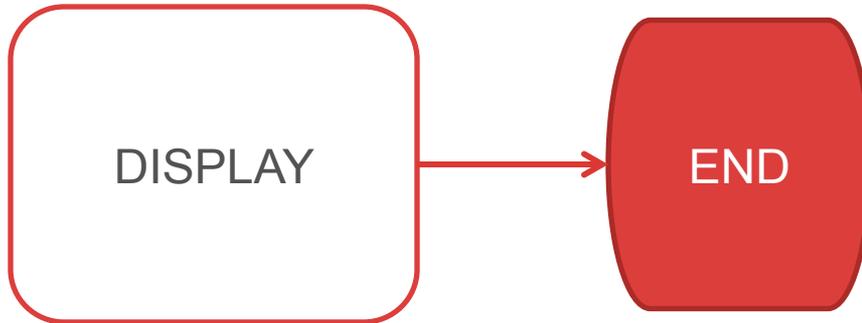
10 Minutes of Code

- » Short, 10-minute activity
- » Easily fits into your classes – won't take up too much time
- » You don't need to know a thing about coding to get started – we will guide you
- » 5 Units
 - » 3 Skill Builder Lessons
 - » 1 Application Lesson

Unit 1, Skill Builder 2

- » Use the TI Basic Program Editor to add to and edit a simple program.
- » Use the program menus to select and paste commands into a program.
- » Use simple editing features to insert and delete things.
- » Learn how to clear the HOME screen.

Understand your program



```
NORMAL FLOAT AUTO a+bL RADIAN MP
PROGRAM:HELLOXY
:ClrHome
:Disp "U R SO COOL"
:Disp "WISH U WERE HERE"
:Disp "I LUV CODING"
:
```

Tips and Troubleshooting

- » Be sure to close your “ ”
- » Don't press CLEAR to delete
- » Select commands from program menu
- » Programs save as you type

Unit 2, Skill Builder 1

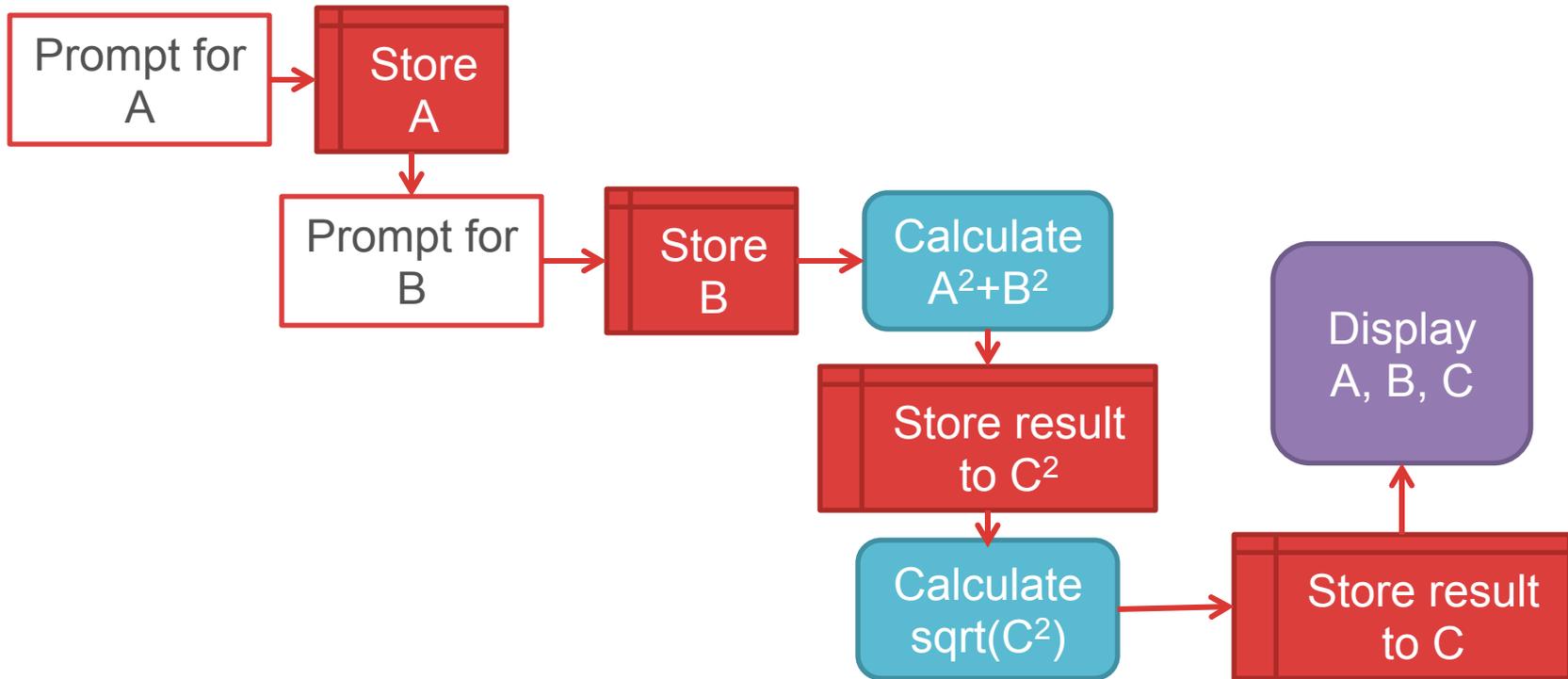
- » Use the TI Basic **Prompt** statement to assign a value to a variable
- » Know the difference between mathematical variables and computer variables
- » Perform calculations within **Disp** statements

Unit 2, Skill Builder 3

- » Learn about programming mathematical expressions
- » Understand order of operations
- » Evaluate **expressions**
- » **Store** the results of expressions in variables

Unit 2 Application

Write a program that asks the user to enter the lengths of the legs then computes the length of the hypotenuse and nicely displays all three values.



Video: What Most Schools Don't Teach

“Everybody in this country should learn how to program a computer... because it teaches you how to think.”

- Steve Jobs

▶ ⏪ 🔊 0:07 / 5:43

CC ⚙️ 📺 🗉

LINK: <https://youtu.be/nKlu9yen5nc>

Thanks!

@TIKellyK

kkutach@ti.com

