

Coding with the TI-Innovator Hub

Instructor Bio



Jennie Kelly

**T³ Regional Instructor
Pearland High School
Pearland, TX**

Jennie is the department chair at Pearland High School in Pearland, TX where she teaches PAP Algebra 2 and AP Computer Science Principles.

Objectives

- Write programs that control the LED and SOUND devices on the TI-Innovator™ Hub.
- Use the Send and Wait commands to control the LED and SOUND devices on the TI-Innovator™ Hub.
- Simulate a traffic light on the TI-Innovator™ Hub.
- Play a song on the TI-Innovator™ Hub.

Color LED

Available parameters for the COLOR command:

TI-84:

Send("SET COLOR # # # [BLINK *frequency*] [TIME *duration*]")

TI-Nspire:

Send "SET COLOR # # # [BLINK *frequency*] [TIME *duration*]"

Color	#	#	#
Red	255	0	0
Green	0	255	0
Blue	0	0	255
Yellow			

Sound

Available parameters for the SOUND command:

TI-84:

Send("SET SOUND *frequency* [TIME *duration*]")

TI-Nspire:

Send "SET SOUND *frequency* [TIME *duration*]"

TIME is optional. If TIME is left out, it defaults to 1 second.
Even the word TIME is optional.

Traffic Light Simulation

[10 Minutes of Code](#)

>Unit 1 Application

Write a program to simulate a traffic light.

Challenge: Add SOUNDS so that a blind person (pedestrian, not driver!) can tell which color the light is.

Play Music



Hot Cross Buns



Hot cross buns! Hot cross buns!

Detailed description: This musical notation is on a single staff with a treble clef. It consists of two measures. The first measure contains three notes: B (circled), A (circled), and G (circled), with the lyrics 'Hot cross buns!' underneath. The second measure contains three notes: B (circled), A (circled), and G (circled), with the lyrics 'Hot cross buns!' underneath. There are black bars on the staff above the notes in the second measure.

Send "SET SOUND B4 2"
Wait 2
Send "SET SOUND A4 2"
Wait 2
Send "SET SOUND G4 2"
Wait 4

One-a-penny, two-a-penny, Hot cross buns!

Detailed description: This musical notation is on a single staff with a treble clef. It consists of two measures. The first measure contains four notes: G (circled), G (circled), G (circled), and G (circled), with the lyrics 'One-a-penny,' underneath. The second measure contains four notes: A (circled), A (circled), A (circled), and A (circled), with the lyrics 'two-a-penny,' underneath. The third measure contains two notes: B (circled) and A (circled), with the lyrics 'Hot cross' underneath. The fourth measure contains one note: G (circled), with the lyrics 'buns!' underneath. There is a black bar on the staff above the note in the fourth measure.