

# Random Student Selector

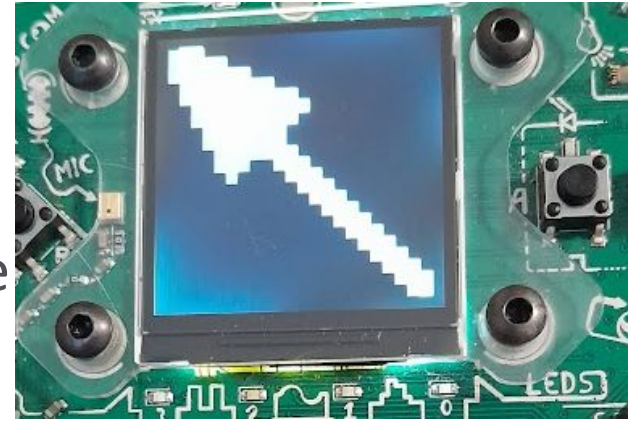
Classroom Tool



# Random Student Selector

Mission 9 ended with a game spinner.

- The concepts from this mission, and the basic concept of the game spinner can be used in many different ways.
- You can use the same techniques to create a random .... anything!



# Random Student Selector

Something teachers may want to do is randomly select a student:

- As the classroom helper
- To answer a question
- To choose a book to read
- To get supplies
- Etc.



# Random Student Selector

Use the CodeX and the game spinner program to add in this capability.

- Open the game spinner code
- Or copy and paste the starter code

```
from codex import *
import random
from time import sleep

# Select a random arrow from the built-in list
def show_random_arrow():
    num = random.randrange(8)
    display.show(pics.ALL_ARROWS[num])

# Animation that shows the arrows spinning
def spin_animation(count):
    delay = 0.05
    index = 0
    loops = 0
    while loops < count:
        my_arrow = pics.ALL_ARROWS[index]
        display.show(my_arrow)
        sleep(delay)
        delay = delay + 0.005
        loops = loops + 1
        index = index + 1
        if index == 8:
            index = 0

# == MAIN PROGRAM ==
while True:
    if buttons.is_pressed(BTN_A) or buttons.is_pressed(BTN_B):
        spin_animation()
        show_random_arrow()
```



# Step #1

Define a list and put your students names as the items in the list.

```
from codex import *  
import random  
from time import sleep  
  
students = ["Charlie", "Sally", "Lucy", "Snoopy",  
            "Linus", "Violet", "Peppermint Patty",  
            "Red-haired Girl", "Rerun", "Woodstock"]
```



## Step #2

You could just select a random name from the list, like the `show_random_arrow()` function.

- But where is the fun in that?
- We will use a loop to show many names and then stop on one.

```
# Select a random arrow from the built-in list
def show_random_arrow():
    num = random.randrange(8)
    display.show(pics.ALL_ARROWS[num])
```



## Step #2

Create a function for `show_random_student()`

- Generate a random number for how many names will show before the final name
- Decide on a range of values that will work for you

```
students = ["Charlie", "Sally", "Lucy", "Snoopy",  
            "Linus", "Violet", "Peppermint Patty",  
            "Red-haired Girl", "Rerun", "Woodstock"]  
  
# Animation for selecting a random student  
def show_random_student():  
    loop_count = random.randint(5, 10)
```



# Step #3

Use a for loop

- Inside the loop get a random name
- Display the name
- When the loop ends, the name that shows is selected

```
# Animation for selecting a random student
def show_random_student():
    loop_count = random.randint(5, 10)
    for count in range(loop_count):
        name = random.choice(students)
        display.clear()
        display.print(name, scale=4)
        sleep(0.2)
```





# Code Extras – break out of the loop

Add another button for breaking the loop and quitting the program.

Display an ending message

```
# == MAIN PROGRAM ==  
while True:  
    if buttons.is_pressed(BTN_A):  
        spin_animation(30)  
        show_random_arrow()  
  
    if buttons.is_pressed(BTN_B):  
        show_random_student()  
  
    if buttons.is_pressed(BTN_D):  
        break
```



# Code Extras – menu

Add another function that displays the button options.

Call the function above the **while True:** loop

```
def menu():
    display.clear()
    display.print("A=game spinner")
    display.print("B=select student")
    display.print()
    display.print("D=Quit")

# == MAIN PROGRAM ==
menu()
while True:
    if buttons.is_pressed(BTN_A):
        spin_animation(30)
        show_random_arrow()

    if buttons.is_pressed(BTN_B):
        show_random_student()

    if buttons.is_pressed(BTN_D):
        break
```



# Code Extras – highlight the chosen name

After the loop ends, select one more random name and change the color to set it apart from the “spinning” names.

```
# Animation for selecting a random student
def show_random_student():
    loop_count = random.randint(5, 10)
    for count in range(loop_count):
        name = random.choice(students)
        display.clear()
        display.print(name, scale=4)
        sleep(0.2)
    display.clear()
    name = random.choice(students)
    display.print(name, scale=4, color=RED)
```



# Code Extras – format the chosen name

Use your knowledge of **display.draw\_text** to format the output:

- Choose a location
- Choose a scale
- Choose a color

```
display.clear()  
display.draw_text(name, x=40, y=75, scale=4, color=YELLOW)
```



# More Code Extras

- Use random colors from the built-in color list
- Use pixels to brighten the display
- Add sound effects

If you have more than one class, you can have multiple student lists and access each one using a different button.



# Extensions

Language Arts



**FIRIA** LABS

# More ways to use the game spinner program

There are many ways to add to and/or use the game spinner program.

- **CROSS CURRICULAR:** Create a Jeopardy game, with categories on the wheel. Each button can be a category and display a question from a list. Use it for review or discussion in any subject.



# Math Extensions

- **MATH:** Spin a wheel of numbers 1 through 10. The number it stops is the answer, and students come up with an expression that equals the answer.
- **MATH:** Spin a wheel of numbers 1 through 10 two times. Use the numbers to form an equation for students to solve.
- **MATH:** Use the dice roll or game spinner for a lesson on probability. Then see how partial or impartial the wheel is.





# Language Arts / Visual Arts Extension

- **LANGUAGE ARTS:** Spin a wheel of words – types of speech, sentence starters, parts of a story, etc. Use the wheel spin for discussion, review, etc.
- **VISUAL ARTS:** Spin a wheel of colors. Use the wheel to discuss color, or use the designated color in a project, etc.

The possibilities are endless!

