Python Getting Rich CLI Tutorial

Contents

Time required: 60 minutes

CLI stands for command line interface. That is the command prompt, terminal, or console.

Printing to the console in different colors is handy and quite practical, from building fancy scanning scripts to distinguishing different log message types (debug, info, or critical, etc.) in your programs.

Rich is a Python library for writing *rich* text (with color and style) to the terminal, and for displaying advanced content such as tables, markdown, and syntax highlighted code.

Rich Demo

1. Install the **rich** library. Open a command prompt.

```
# Windows
pip install rich
# Linux
sudo apt install python3-rich
```

2. Open a command prompt. Type the following command.

```
python -m rich
```

You will see some of the capabilities of rich at the command prompt.

Tutorial 1: Square Calculator

This tutorial will show a couple of ways to make your CLI program much more interesting.

1. Create a Python program named **square_calculator.py**
2. Import **rich** as shown. We will use **Console** for printing text and **Panel** for the program title.

```
"""
    Name: square_calculator.py
    Author: William A Loring
    Created: 07/08/22
    Purpose: Calculate the area and perimeter of a square
"""

# pip install rich
# Import Console for console printing
from rich.console import Console
# Import Panel for title displays
from rich.panel import Panel
```

3. **rich.console** must be initialized as shown for **console.print**

```
# Initialize rich.console
console = Console()
```

4. Panel uses 3 parameters to print a nice border around our program title.

```
# TODO: Print a nice title for our program
console.print(
    Panel.fit(
        " A Square Calculator ",
        style="bold blue",
        subtitle="By William Loring")
)
print()
```

5. Nothing new here.

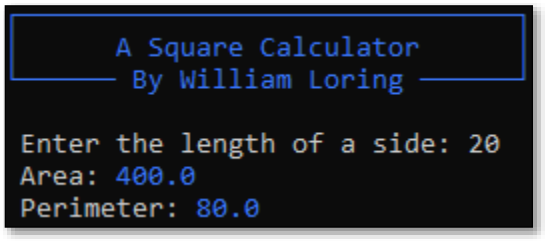
```
# TODO: Get side length from user, cast to float
side = float(input("Enter the length of a side: "))

# TODO: Calculate area
area = side * side

# TODO: Calculate perimeter
perimeter = side * 4
```

6. **console.print** uses html like opening and closing tags to set the color and unset the color.

```
console.print("[bold blue]This text is bold blue[/bold blue]")
```

```
35 # TODO: Display results
36 console.print(f"Area: [bold blue]{area}[/bold blue]")
37 console.print(f"Perimeter: [bold blue]{perimeter}[/bold blue]")
```

Example run:



Standard 8-bit Terminal Colors

The Windows command prompt can only display 16 colors. Each color can have bold or light added in front of the name: light blue, bold blue.

Color	Number	Name
	0	"black"
	1	"red"
	2	"green"
	3	"yellow"
	4	"blue"
	5	"magenta"
	6	"cyan"
	7	"white"
	8	"bright_black"
	9	"bright_red"
	10	"bright_green"
	11	"bright_yellow"
	12	"bright_blue"
	13	"bright_magenta"
	14	"bright_cyan"
	15	"bright_white"

Assignment 1: Add Riches to a Program

Add rich formatting of a minimum of 4 items to any Python CLI program that we have done in class, or one that you are working on.

Assignment Submission

1. Attach the program files.
2. Attach screenshots showing the successful operation of the program.
3. Submit in Blackboard.