

Overview

In this lesson, you will learn how to add **text directly to the Tkinter canvas** when working with the turtle library. Drawing text on the canvas allows you to display labels, titles, instructions, and other information without using the turtle's writing commands.

Important Information

When you access the canvas through turtle, you can draw text using canvas methods instead of turtle movement.

Canvas Coordinates Reminder

In turtle graphics:

- `(0, 0)` is the **center of the canvas**
- Positive **x** moves right
- Negative **x** moves left
- Positive **y** moves down
- Negative **y** moves up

Text is placed using these coordinates.

Creating Text on the Canvas

Text is created using:

```
canvas.create_text(x, y, text="Your text here")
```

- `(x, y)` is the position of the text
- The text is centered on that point by default

Changing the Text Content

The `text` setting controls what is displayed:

```
text="Hello, World!"
```

The text can be:

- A single word
- A sentence
- Multiple words with spaces

Changing the Text Color

You can change the text color using the `fill` setting:

```
fill="blue"
```

Common color names include:

- `"black"`
- `"red"`
- `"blue"`
- `"green"`
- `"purple"`

Changing the Font

Fonts are controlled using the `font` setting:

```
font=("Arial", 20, "bold")
```

The font setting has three parts:

1. Font family (e.g. `"Arial"`, `"Courier"`, `"Times"`)
2. Font size (number)
3. Font style (`"normal"`, `"bold"`, `"italic"`)

You can omit the style if you want normal text.

Text Alignment (Anchor)

By default, text is centered on the `(x, y)` position. You can control how the text is anchored using `anchor`:

```
anchor="center"
```

Common anchor options:

- `"center"` → text is centered on the point
- `"n"` → text appears below the point
- `"s"` → text appears above the point
- `"e"` → text appears left of the point
- `"w"` → text appears right of the point

Anchors are useful for lining up text precisely.

Combining Text Settings

All text settings can be combined in one call:

```
canvas.create_text(  
    0, 0,  
    text="Canvas Text",  
    fill="blue",  
    font=("Arial", 24, "bold"),  
    anchor="center"  
)
```

Set Up

Create a new Python file called `canvas_text.py`.

Copy, Change, Challenge

Copy

Copy and run the following code.

```
import turtle  
  
screen = turtle.Screen()  
canvas = screen.getcanvas()  
  
canvas.create_text(0, 0, text="Hello, Canvas!")  
  
turtle.done()
```

You should see text displayed in the center of the canvas.

Change

Modify the text so that:

- The text content is different
- The text color changes
- The font size is larger or smaller

Run the program again and observe the changes.

Challenge

Add multiple pieces of text so that:

- One piece of text is centered
- One piece of text appears above the center
- One piece of text appears to the left or right of the center
- At least one piece of text uses a different font style