Seaborn boxplot

SHARP SIGHT

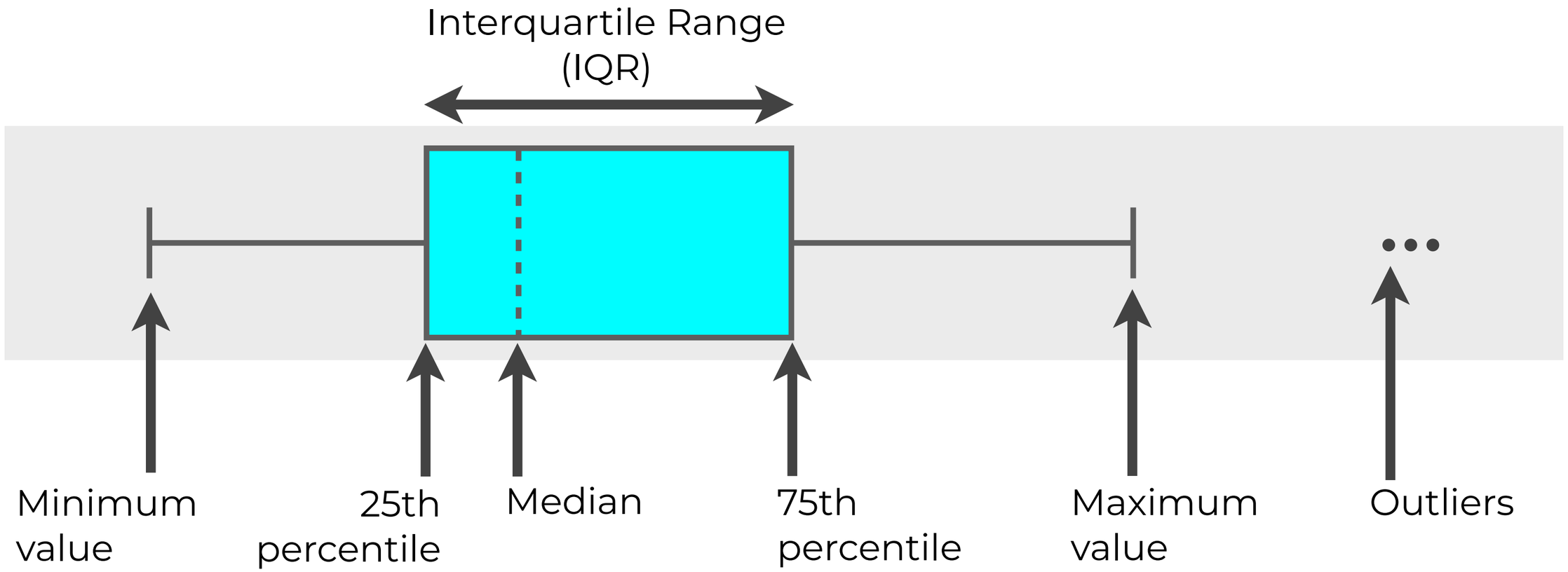
What you'll learn

- How to create a boxplot in Seaborn

- How to modify your boxplots
  - change the box color
  - map a variable to the box color
  - change the width of the boxes
  - create a horizontal boxplot
  - create a 'dodged' boxplot

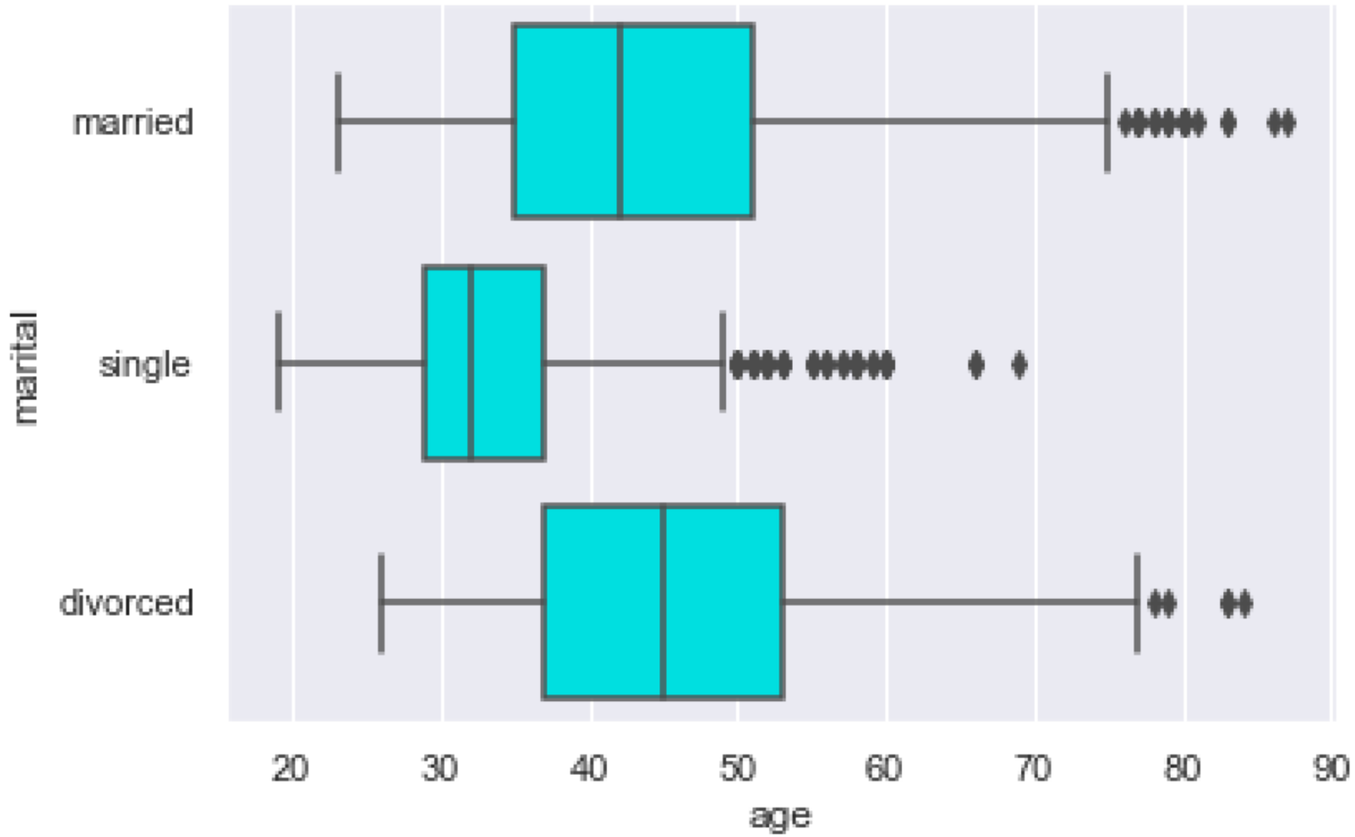
Seaborn boxplot overview

Box plots provide detailed information about a variable's distribution



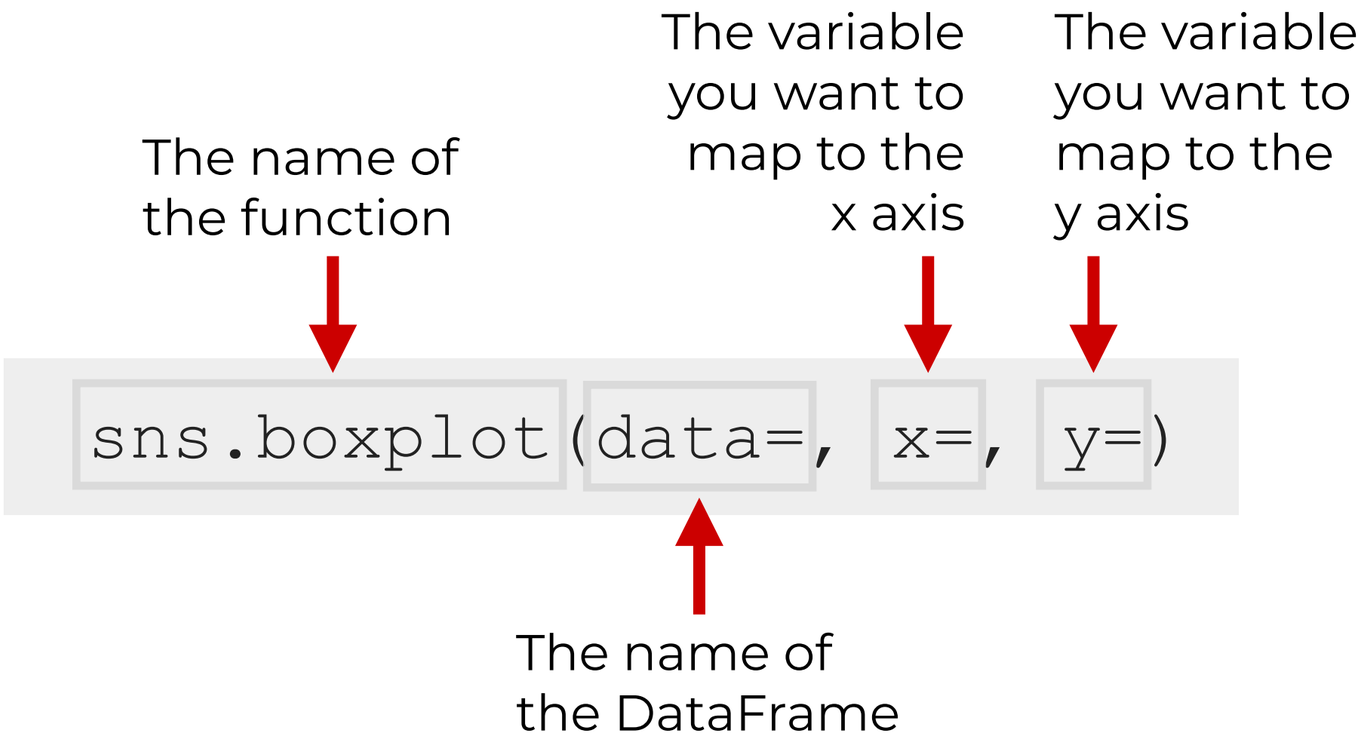
SNS.BOXPLOT CREATES BOXPLOTS THAT SHOW SUMMARY STATISTICS

```
sns.boxplot(data = bank
            ,x = 'age'
            ,y = 'marital'
            ,color = 'aqua'
            )
```



Seaborn boxplot syntax

Syntax of sns.boxplot



Parameters of sns.boxplot

The parameters of sns.boxplot

Parameter	What it does	Format	Default
`data`	Specify DataFrame to plot	DataFrame	
`x`	Map variable to x-axis	variable (numeric or categorical)	
`y`	Map variable to y-axis	variable (numeric or categorical)	
`color`	Specify color of the boxes	color name	blue (but depends on settings
`width`	Specify width of the boxes	Number between 0 and 1	
`hue`	Map a variable to the color (i.e., change the color of the boxes according to the values of a variable	variable (numeric or categorical)	

Note: `sns.boxplot()` has many more parameters, but these are the most commonly used

Examples of sns.boxplot

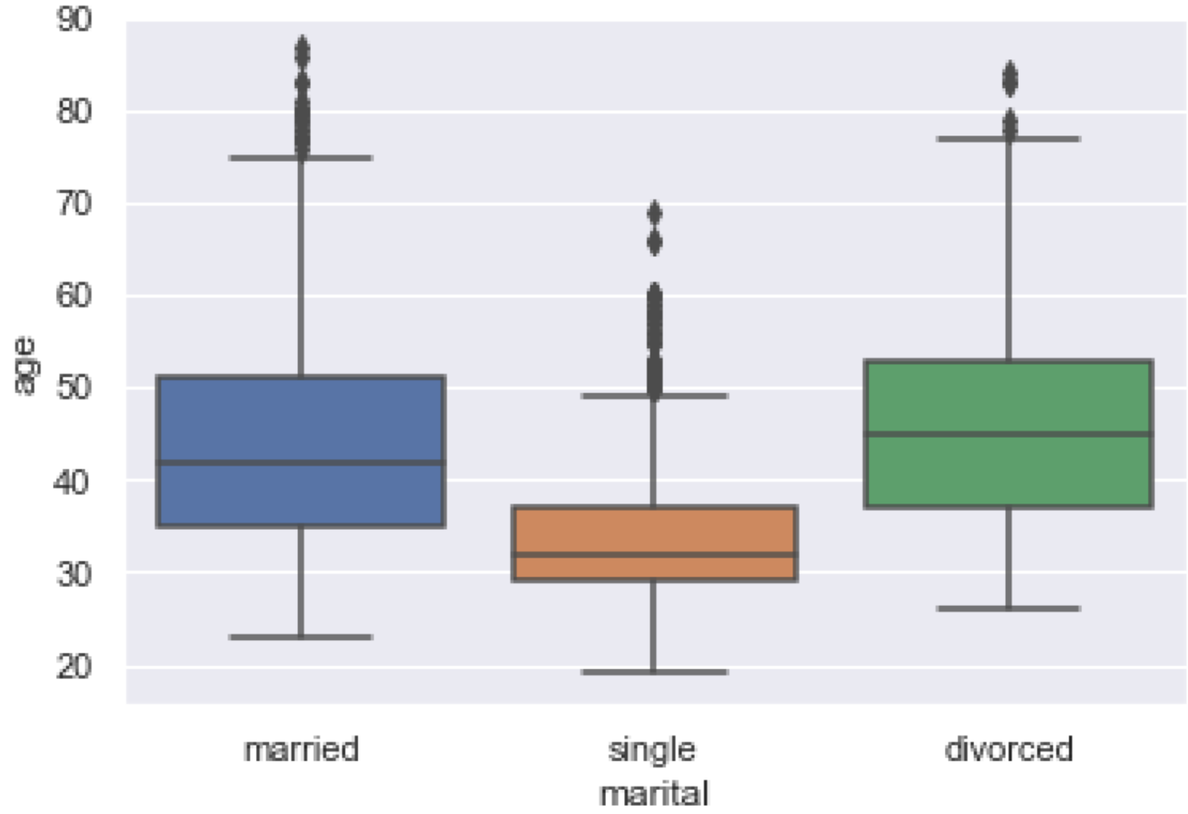
Example 1: simple boxplot

```
sns.boxplot(data = bank
            ,x = 'marital'
            ,y = 'age'
            )
```

Here, we're setting the DataFrame with the `data` parameter, and mapping variables to the x and y axes

Example 1: simple boxplot

```
sns.boxplot(data = bank
            ,x = 'marital'
            ,y = 'age'
            )
```



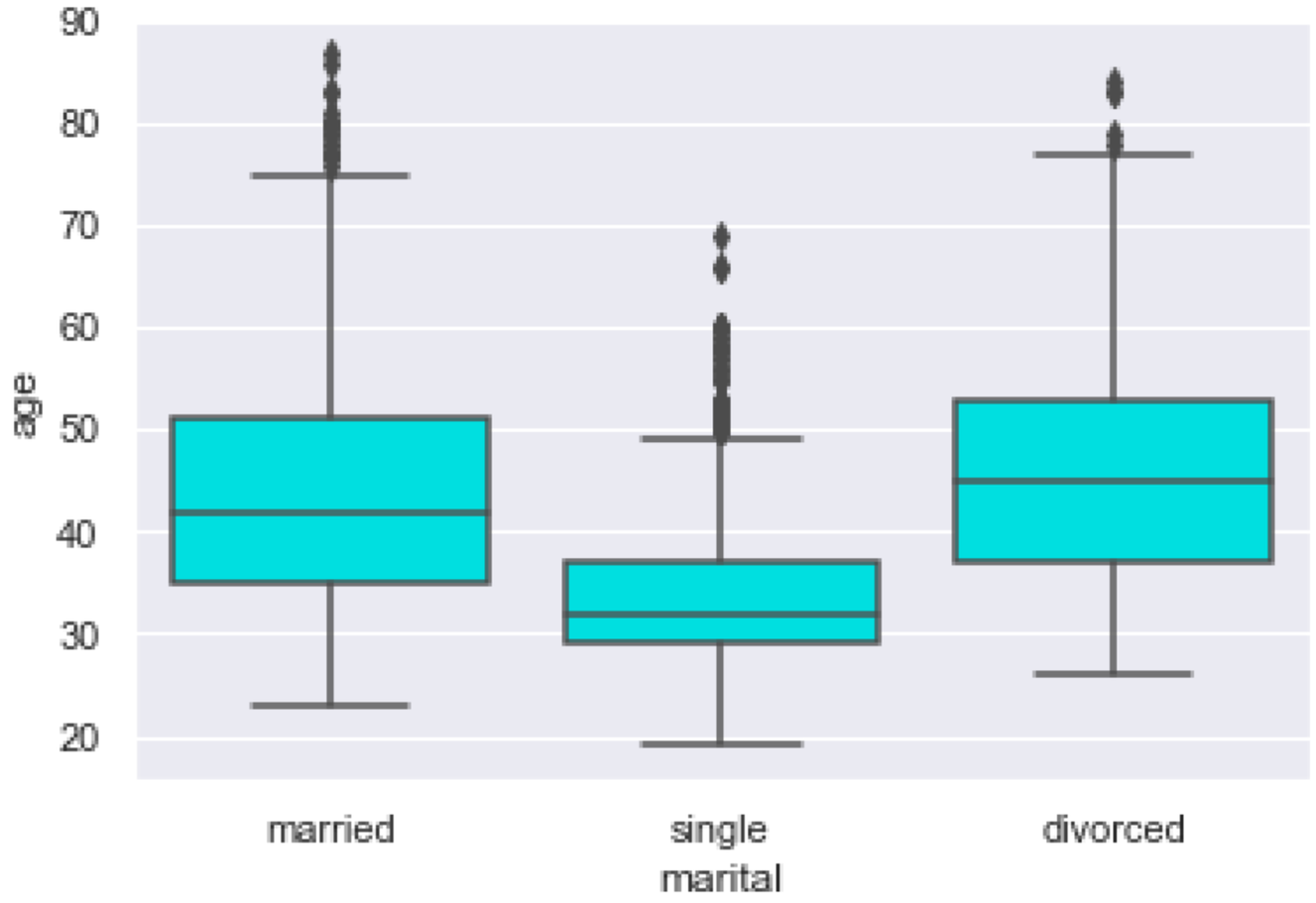
Example 2: change the box color

```
sns.boxplot(data = bank
            ,x = 'marital'
            ,y = 'age'
            ,color = 'aqua'
            )
```

Here, we're using the `color` parameter to set the color of the bars to `'aqua'`

EXAMPLE 2: CHANGE THE BOX COLOR

```
sns.boxplot(data = bank
            ,x = 'marital'
            ,y = 'age'
            ,color = 'aqua'
            )
```



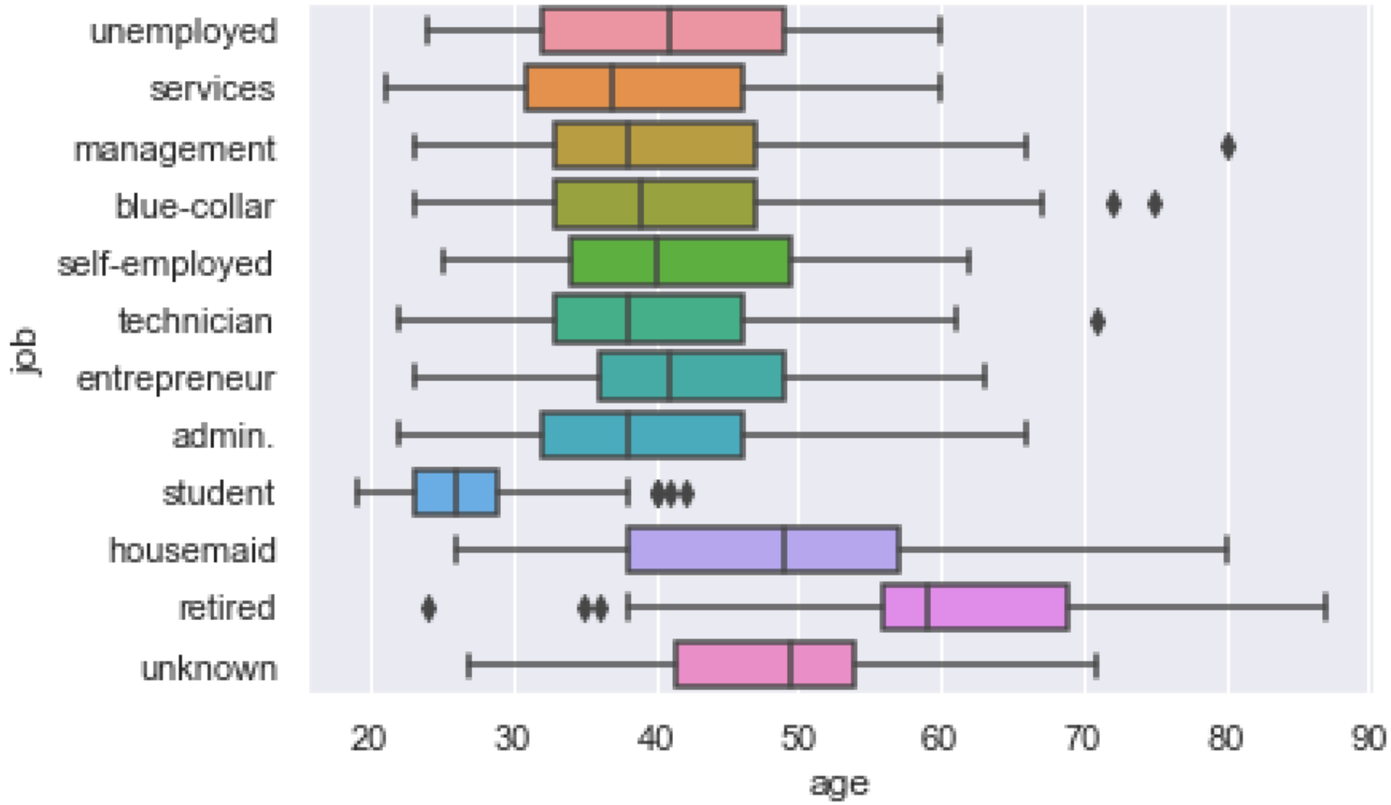
Example 3: create a horizontal boxplot

```
sns.boxplot(data = bank
            ,x = 'age'
            ,y = 'job'
            )
```

Here, we're mapping our categorical variable to the y axis, and the numeric variable to the x axis to "flip" the boxplot to a horizontal orientation.

Example 3: create a horizontal boxplot

```
sns.boxplot(data = bank
            ,x = 'age'
            ,y = 'job'
            )
```



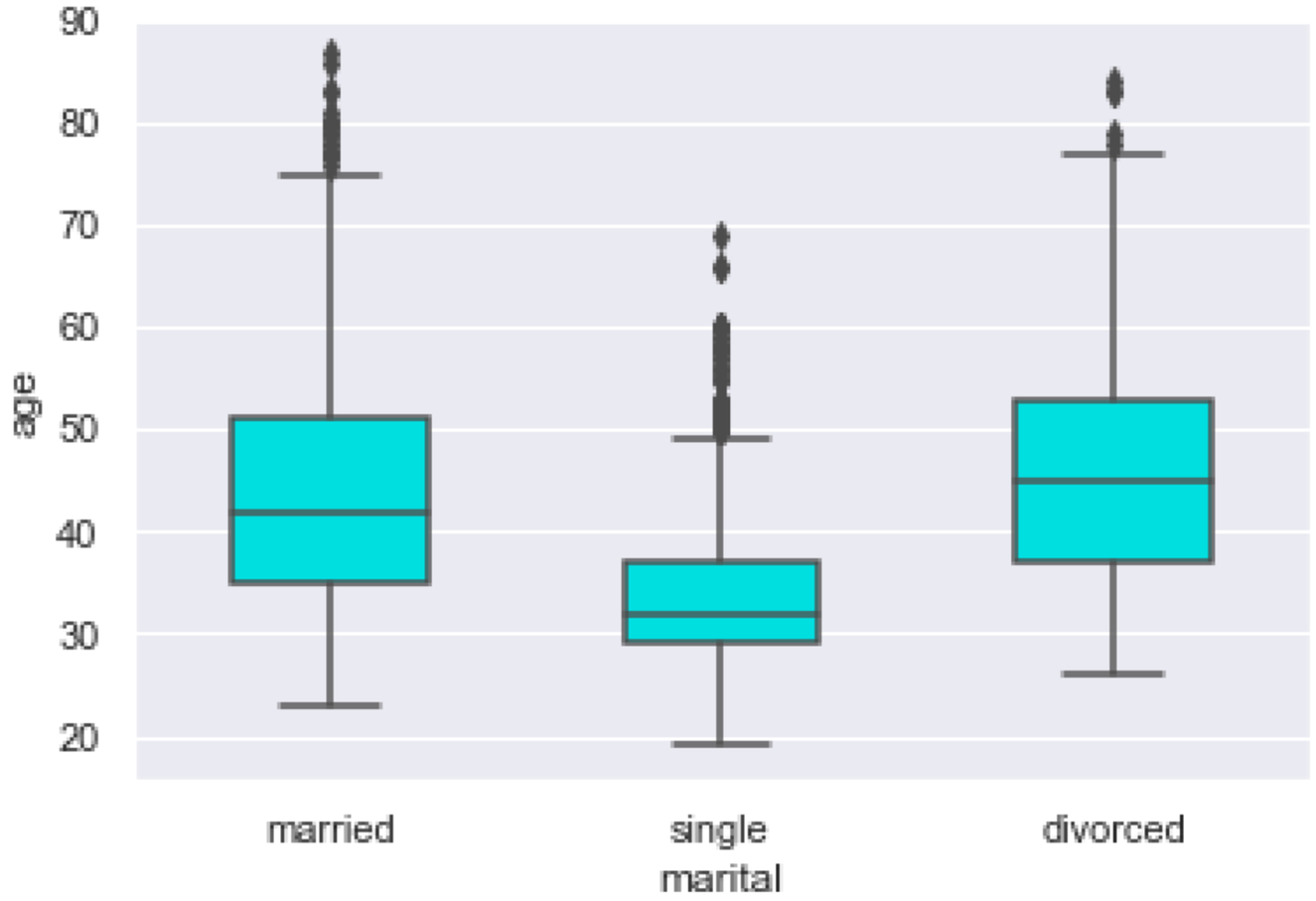
Example 4: change the width of the boxes

```
sns.boxplot(data = bank
            ,x = 'marital'
            ,y = 'age'
            ,color = 'aqua'
            ,width = .5
            )
```

Here, we're using the `width` parameter to change the width of the boxes

Example 4: change the width of the boxes

```
sns.boxplot(data = bank
            ,x = 'marital'
            ,y = 'age'
            ,color = 'aqua'
            ,width = .5
            )
```



Example 5: create a 'dodged' boxplot

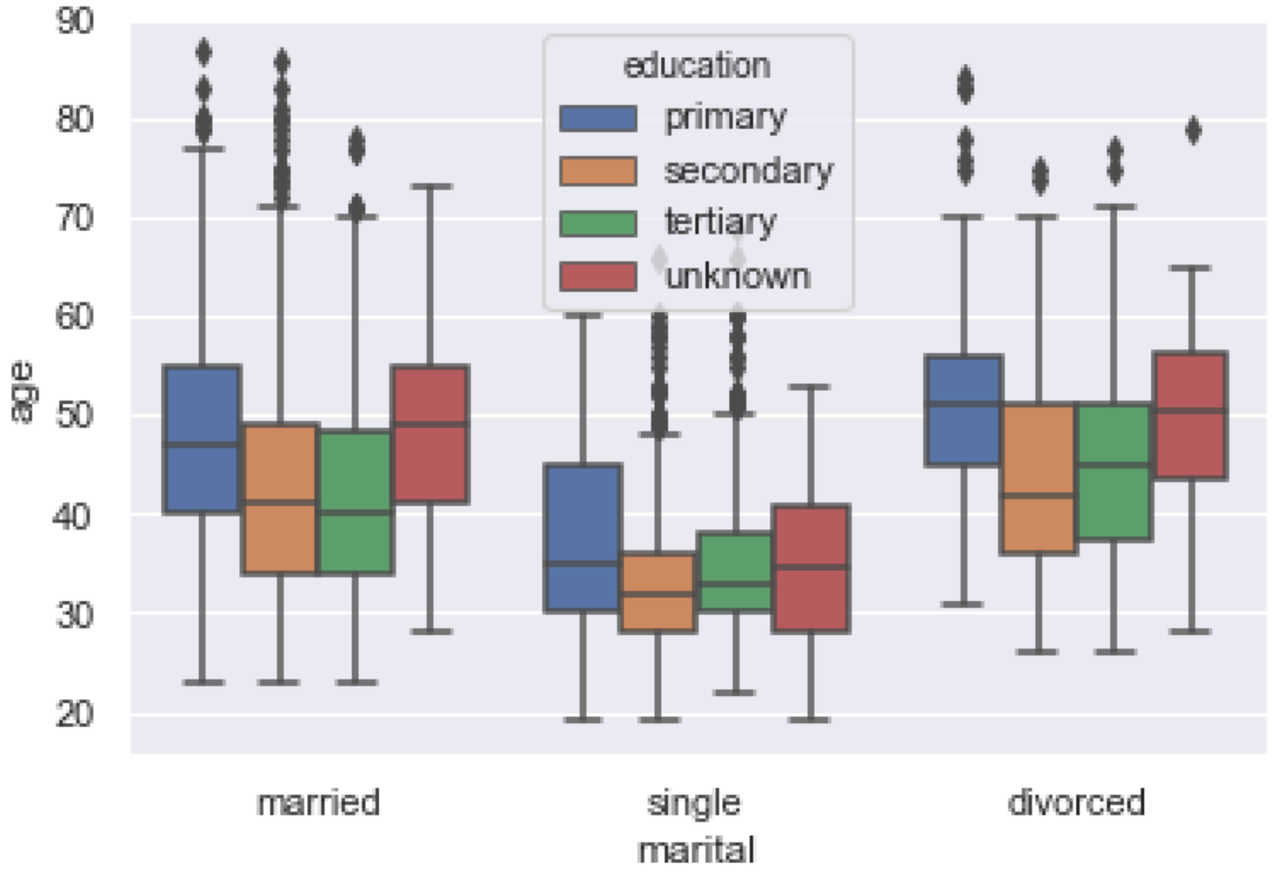
```
sns.boxplot(data = bank
            ,x = 'marital'
            ,y = 'age'
            ,hue = 'education'
            )
```

Here, we're mapping another categorical variable (`education`) to the `hue` parameter

This will create a "dodged" boxplot, that will show boxes for multiple categories (`education` and `marital`)

EXAMPLE 5: CREATE A 'DODGED' BOXPLOT

```
sns.boxplot(data = bank
            ,x = 'marital'
            ,y = 'age'
            ,hue = 'education'
            )
```



Recap

Recap of what we learned

- How to use the `sns.boxplot()` function to create boxplots

- How to modify your boxplots
  - change the box color
  - map a variable to the box color
  - change the width of the boxes
  - create a horizontal boxplot
  - create a 'dodged' boxplot

- **Next Steps**: Watch the code walkthrough video for step-by-step code examples of `sns.boxplot()`