5.1.6

Create Bar Charts Using the Object-Oriented Approach

Now that you've made your first bar chart, you're starting to feel like a bit of a pro—as you should be! Bar charts are standard at organizations around the globe, and being able to make clearly annotated vertical and horizontal bar charts is a critical skill for any data visualizer.

Of course, V. Isualize has been working in the field for more than a decade, so you and Omar need to be ready in case she asks how to do this using the object-oriented approach. So let's learn how to do that now!

Similar to the line charts that we created using the object-oriented method, bar charts use the same formats. We'll use the same ride-sharing data, shown here:

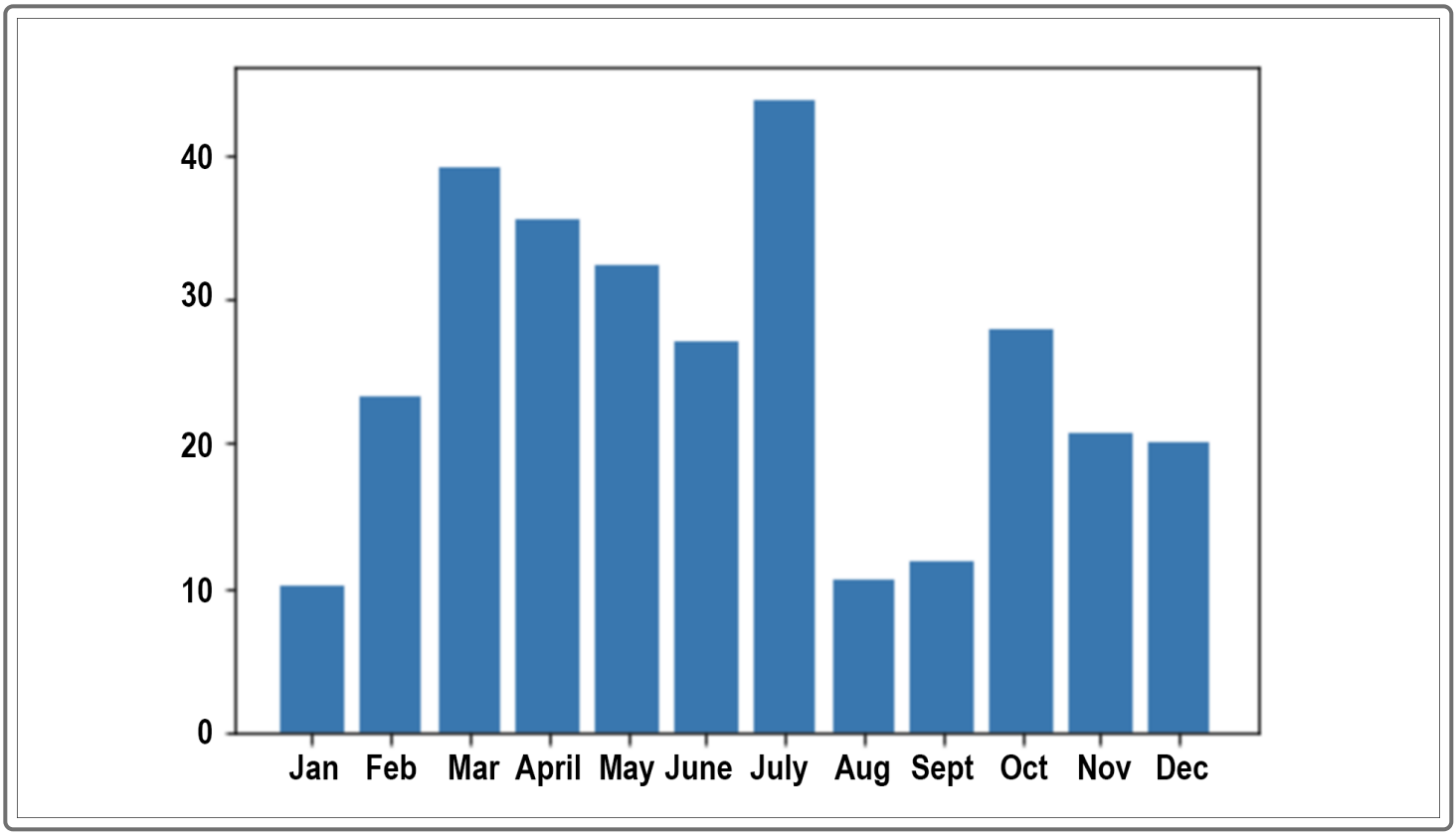
```
# Set the x-axis to a list of strings for each month.
x_axis = ["Jan", "Feb", "Mar", "April", "May", "June", "July", "Aug", "Se

# Set the y-axis to a list of floats as the total fare in US dollars accu
y_axis = [10.02, 23.24, 39.20, 35.42, 32.34, 27.04, 43.82, 10.56, 11.85,
```

Create a Vertical Bar Chart

To create a bar chart using the object-oriented interface method, use the `ax.bar()` function and add the x and y data parameters inside the parentheses. To do this, add the following code in a new cell and run the cell:

```
# Create the plot with ax.plt()
fig, ax = plt.subplots()
ax.bar(x_axis, y_axis)
```

When we run this cell, the output is the same as using the MATLAB method, as you can see here:



Using the code we used to create the previous bar graph, how would you change the bar color to black with a legend for the city of New York using the object-oriented interface method? (Select all that apply.)

- [ ] `plt.bar(x_axis, y_axis, color="black", label='New York')`
- [ ]
```
ax.set_color("black")
ax.set_label('New York')
```
- [ ] `ax.bar(x_axis, y_axis, color="k", label='New York')`
- [ ] `ax.bar(x_axis, y_axis, color="black", label='New York')`

Check Answer

Finish ▶

NOTE

For more information, see the **Matplotlib documentation on creating bar charts using the object-oriented interface (https://matplotlib.org/stable/api/_as_gen/matplotlib.axes.Axes.bar.html)**.

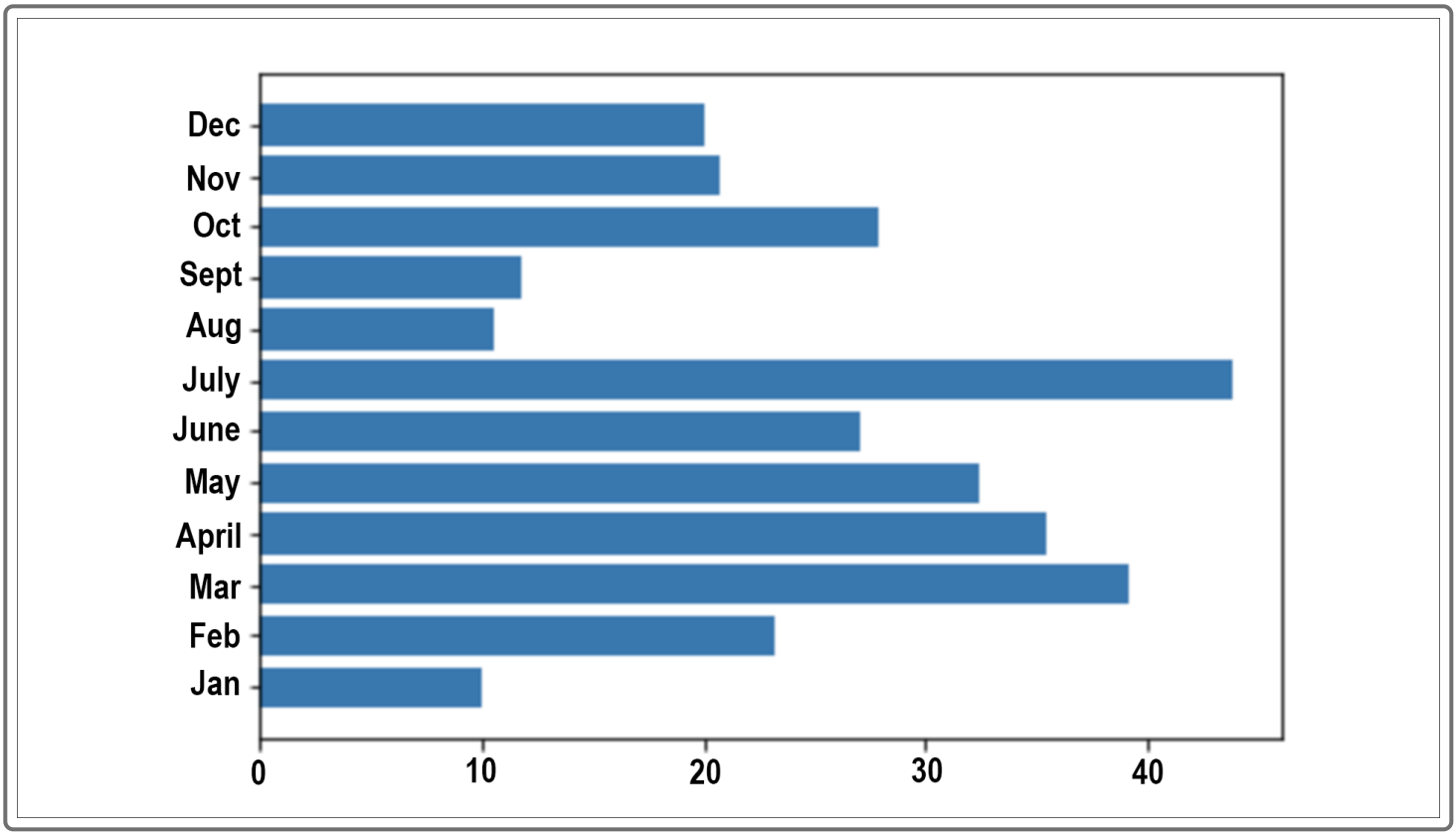
Create a Horizontal Bar Chart

To create a horizontal bar chart using the object-oriented interface method, use the `ax.barh()` function.

Add the following code in a new cell and run the cell:

```
# Create the plot with ax.plt()
fig, ax = plt.subplots()
ax.barh(x_axis, y_axis)
```

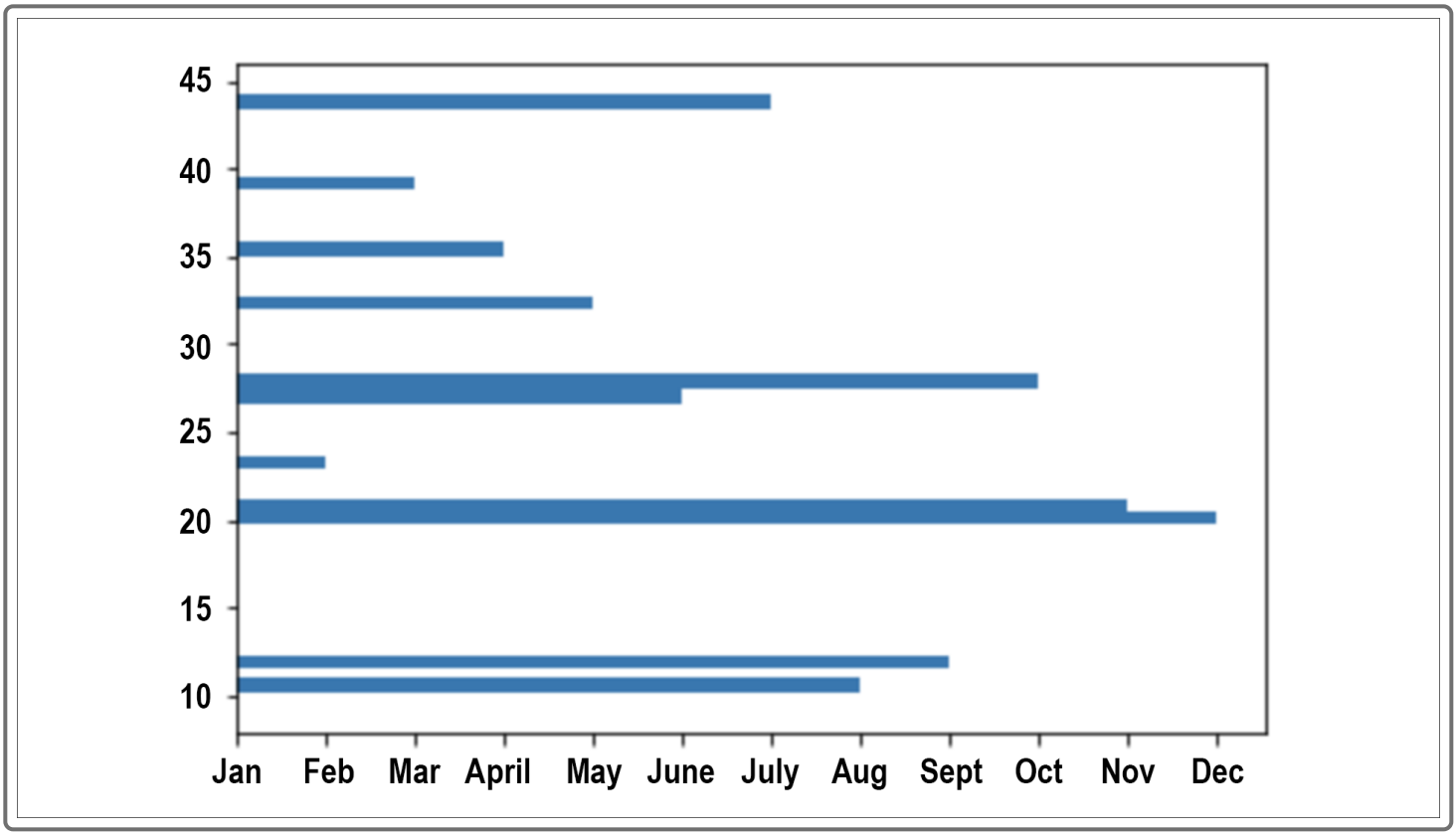
When we run this cell, our bar chart looks like this:



If we want the data on opposite axes, we need to switch the arguments in the `barh()` function, as shown here:

```
# Create the plot with ax.plt()
fig, ax = plt.subplots()
ax.barh(y_axis, x_axis)
```

When we run this cell, our bar chart looks like this.

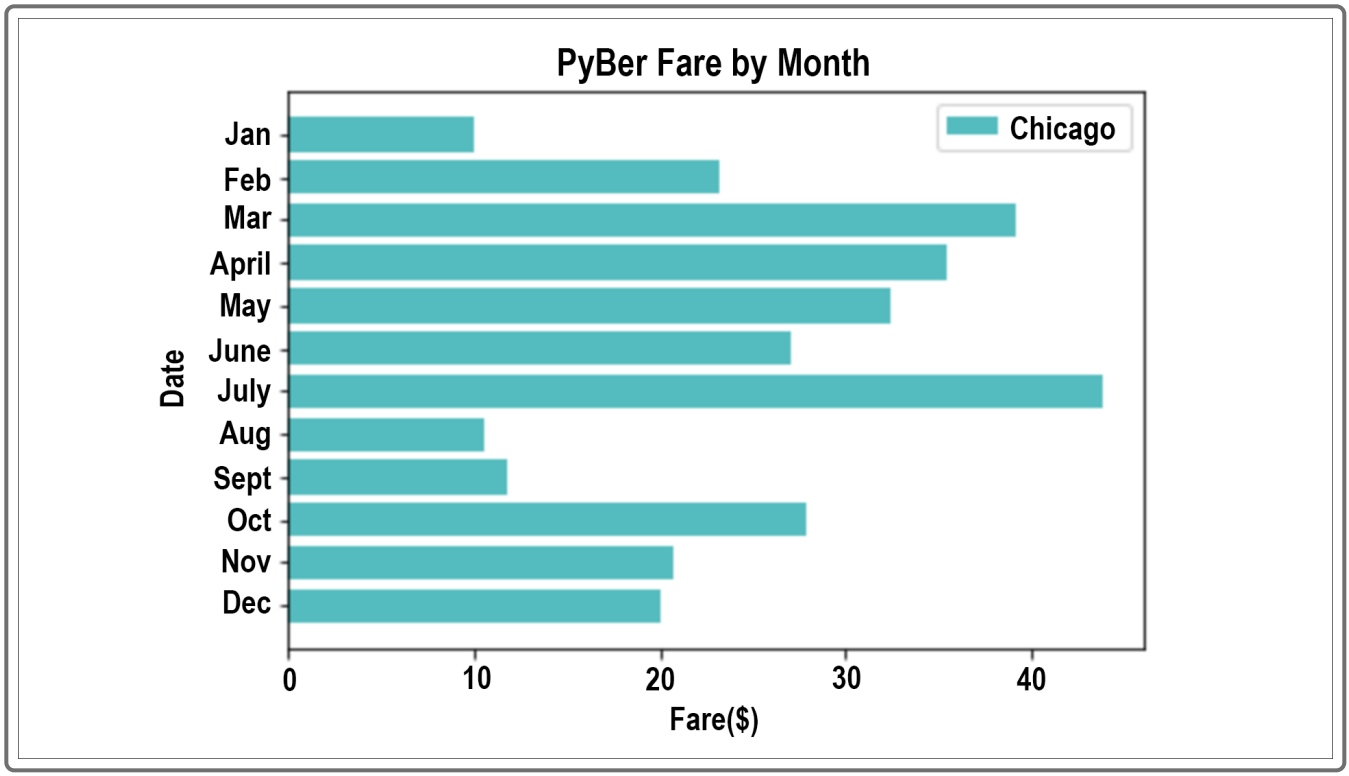


Now test your skills in the following Skill Drill.

SKILL DRILL

Using the object-oriented approach, make the following changes:

1. Change the bar color to cyan.
2. Add a legend for the city of Chicago.
3. Add a title and axes labels.
4. Switch the axis so that the Fare($) data is on the x-axis.
5. Invert the y-axis data.



NOTE

For more information, see the **Matplotlib documentation on creating horizontal bar charts using the object-oriented interface method (https://matplotlib.org/stable/gallery/lines_bars_and_markers/barh.html#sphx-glr-gallery-lines-bars-and-markers-barh-py)** .

Great job on creating bar charts! Next we'll learn how to create scatter plots and bubble charts.