Formatting
The format function

\[
<\text{newString}> = \text{format}\ (\item, \text{formatSpecifier})
\]

\item is a number or string that you want to format
\text{formatSpecifier} is a string that specifies exactly how we want \item to appear

The function returns a new string that looks the way we want.
Formatting floating-point numbers

For floating-point numbers, a format specifier looks like this (you choose the actual numbers):

10.2f

Field width (an int)  An actual decimal point  Precision (an int)  The actual letter “f”

This format specifier says “I want to print a floating point number using 10 columns, with two of them after the decimal point.”
Formatting using Scientific Notation

If you change the conversion code from "f" to "e", the number will appear in scientific notation. (Again, you choose the actual numbers):

\[ 10.2e \]

- Field width (an \texttt{int})
- An actual decimal point
- Precision (an \texttt{int})
- The actual letter "e"

This format specifier says “I want to print a floating point number in scientific notation using 10 columns, with two of them after the decimal point.”
Formatting using Percentages

If you change the conversion code to “%”, the number will appear as a percentage.

This format specifier says “I want to print a floating point number as a percentage using 10 columns, with two of them after the decimal point.”
Formatting integers

For integers, a format specifier looks like this:

10d

Field width (an int)

One of the letters below

This format specifier says “I want to print a decimal number using 10 columns.”

You actually have more choices than just “d”:

- d: decimal
- x: hexadecimal
- o: octal
- b: binary
Formatting strings

For strings, a format specifier looks like this:

```
10s
```

Field width (an int)  The actual letter “s”

This format specifier says “I want to print a string using 10 columns.”
Justifying output

You can indicate whether you want the item to appear left-justified in a field or right-justified in a field by placing a “<“ or a “>” in front of the format specifier.

<10.2%  >10.2%

Left-justified in the 10 columns  Right-justified in the 10 columns

“Right-justified” is the default for numbers, so if you don’t put either symbol in front of the format specifier, the number will be right-justified. “Left-justified” is the default for strings”.
Centering an output string

To center a string, you use `center()`:

- `center()` is a method, not a function, so you have to use object/method notation
- `center()` takes one argument: the width of the field you want to center the string in