

Code Sleuth

Symbolic logic

Inference

Assume this code runs first:

```
precipitation_mm <- 0.5
temperature_f <- 92
is_rainy <- precipitation_mm >= 2.5
is_hot <- temperature_f >= 85
```

Code example	Output
<code>is_rainy is_hot</code>	<code>[1] TRUE</code>
<code>is_rainy && is_hot</code>	<code>[1] FALSE</code>
<code>!is_rainy</code>	<code>[1] TRUE</code>

What do the *symbolic logic* operators (`||`, `&&`, `!`) do?

`||` or
`&&` and
`!` not

Prediction

What will be the output of the following expression?

Code example	Output
<pre>t <- 2006 is_crown_of_thorns <- t == 2008 t == 2010 is_crown_of_thorns</pre>	

If-else if-else

Inference

Code example	Output
<pre>day_of_week <- "Monday" if (day_of_week == "Tuesday") { dinner <- "Tacos" } else if (day_of_week == "Monday") { dinner <- "Meatless" } else { dinner <- "Leftovers" } dinner</pre>	[1] "Meatless"

Why is the output "Meatless"? Why isn't it "Tacos" or "Leftovers"?

The if() condition is false - skip Tacos

The else if() condition is true - set to Meatless

An earlier condition was true - skip Leftovers

Prediction

Using the type coercion rules you inferred above, what will be the output of the following expression?

Code example	Output
<pre>precipitation_mm <- 0.5 temperature_f <- 92 if (precipitation_mm >= 0.5 && temperature_f >= 65) { jacket <- "raincoat" } else if (temperature_f <= 55) { jacket <- "puffy" } else { jacket <- "none" } jacket</pre>	