



Nested Loops

CSE 160

Summer 2026

Questions?



Announcements

- [Homework Assignment 1](#) due Monday, July 6th at 11:59 PM
- Programming Practice 1 due Monday, July 6th at 11:59 PM

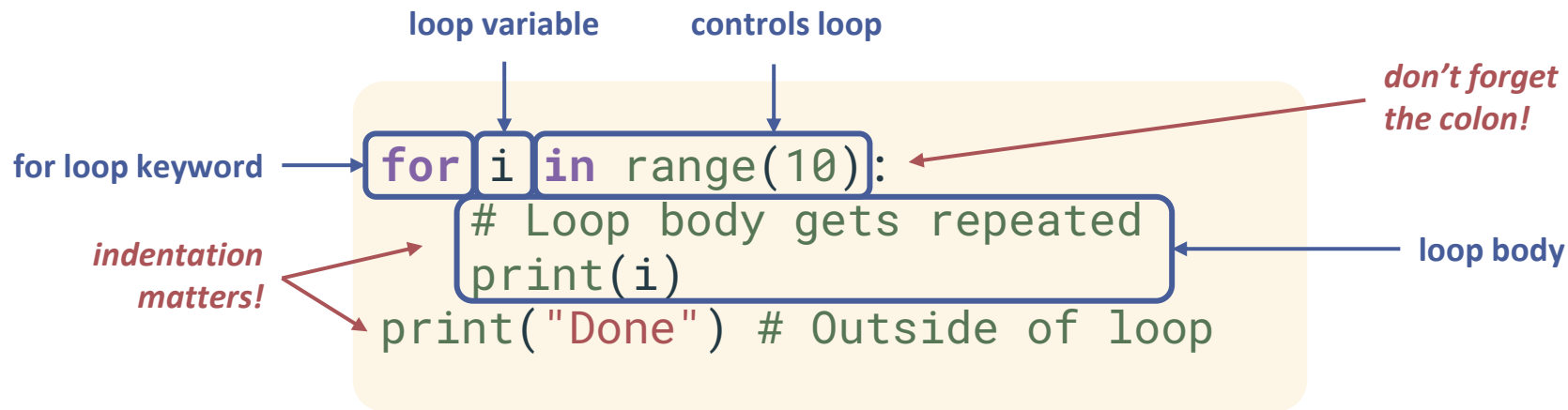
Today's Roadmap

1. Loops Recap
2. Loops Practice
3. Nested Loops

[Jupyter Hub](#)

Loops Recap

Loops are used to repeat code. The **value** of the **loop variable** is updated each time through the loop.



Next Up: Loops Practice

1. Loops Recap
- 2. Loops Practice**
3. Nested Loops

Loop Example 1: 🖐️

valid variable name!

use only when loop
variable isn't used in
loop body.

```
for _ in range(6):  
    print("Hi!")
```

0, 1, 2, 3, 4, 5

Output

Hi!
Hi!
Hi!
Hi!
Hi!
Hi!

Loop Example 2: Counting!

Output

```
for i in range(5, 0, -1):  
    print(i)
```

5, 4, 3, 2, 1

5
4
3
2
1

Loop Example 3: Lists

Output

*this is a **list** of **strings**!*

```
for x in ["Hi", "Ciao", "Hola"]:  
    print(x)
```

Hi
Ciao
Hola

Loop Example 4: School Spirit

Output

strings are sequences of characters!



```
for c in "Go Huskies!":  
    print(c)
```

G
o

H
u
s
k
i
e
s
!

Next Up: Nested Loops

1. Loops Recap
2. Loops Practice
- 3. Nested Loops**

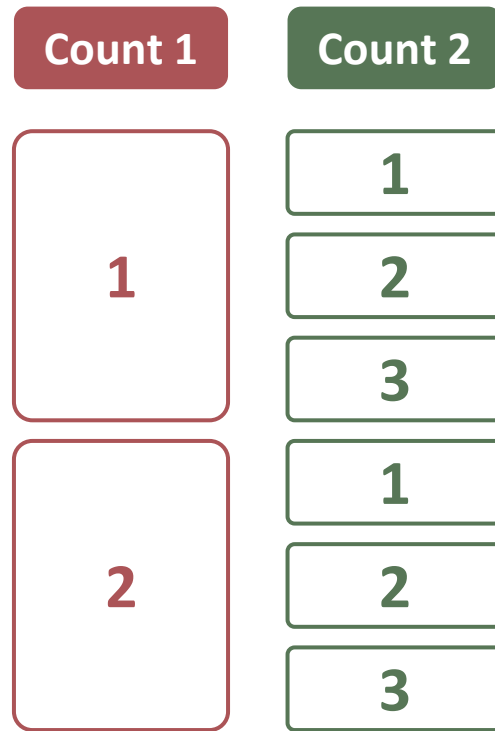
Nested Loops

Motivation:

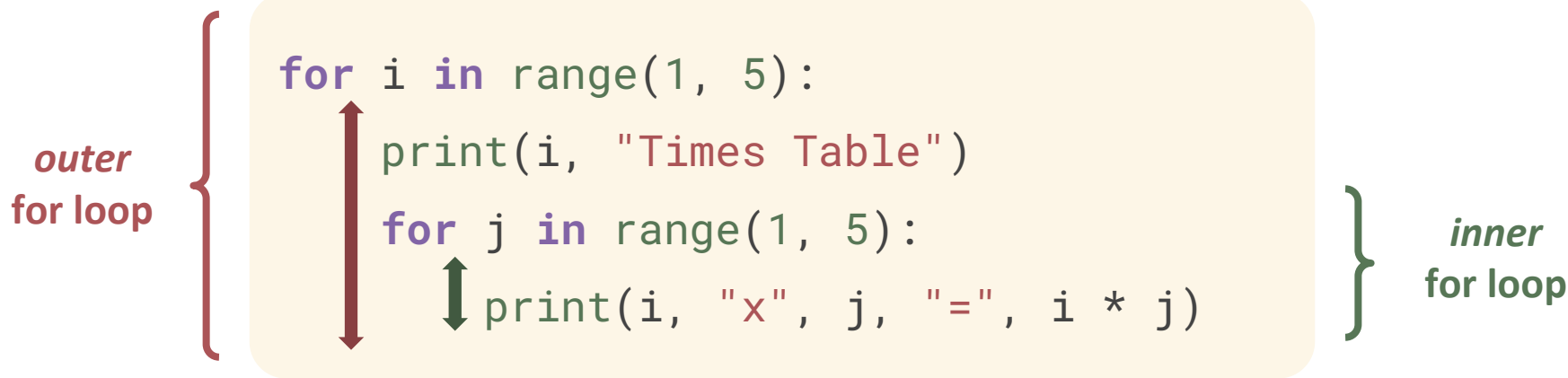
What if we wanted to keep track of two counts at the same time?

Solution:

Put a for loop inside another for loop!



Example: Times Tables



Think Pair Share

How many times does **CSE 160** get printed when this code is run?



Sli.do

#cse160

```
for i in range(2, 8, 2):  
    for j in range(5):  
        print("CSE 160")
```

A

4

B

5

C

12

D

15

E

20

Example: Courses

```
for dept in ["CSE", "BIO", "INFO"]:  
    for num in [180, 331, 480]:  
        print(dept, num)
```

Example: Seeing Stars

What's going on here???

```
for i in range(5):  
    line = ""  
    for j in range(i):  
        line += "*"   
    print(line)
```

Example: Seeing Stars

What's going on here???

```
for i in range(5):  
    line = ""  
    for j in range(i):  
        line += "*"   
    print(line)
```

this is totally allowed!

Each time Python gets to this line, it looks up the value of *i* to create the range

Example: Seeing Stars

What's going on here???

shortcut
for line = line + "*" →

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for i in range(5):  
    line = ""  
    for j in range(i):  
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Example: Seeing Stars

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Example: Seeing Stars

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for i in range(5):  
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Questions?

Live and on Sli.do

Sli.do

#cse160

