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Iteration

SKILLS FOR LIFE
SKILLS BOOTCAMPS

Department for Education

SE Lecture – Housekeeping

- ❑ The use of disrespectful language is prohibited in the questions. This is a supportive learning environment for all. Please engage accordingly.
  - ❑ Fundamental British Value: **Mutual Respect**
  - ❑ Please review Code of Conduct (in Student Undertaking Agreement) if unsure
- ❑ No question is daft or silly – **ask them!**
- ❑ There are Q/A sessions midway and at the end of the session, should you wish to ask any follow-up questions.
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Lecture Objectives

1. Define for loops as a means for automating repetitive tasks.
2. Implement for loops to solve problems that require dynamic iteration based on changing conditions.
3. Recall the purpose of using a for loop in Python.

Poll:

Assessment

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Recap on Conditionals

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Iteration

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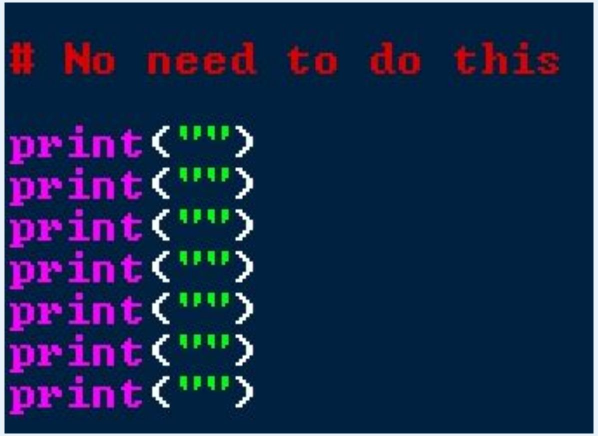
For Loop

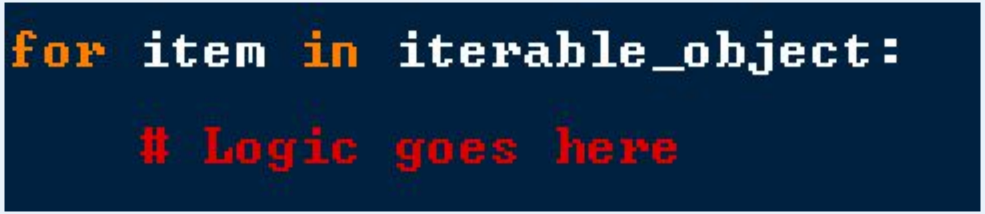
- ★ For loops are used when we need code to run a specified number of times.
- ★ Think of it making the task of creating ten print statements much easier.



```
# No need to do this

print("")
print("")
print("")
print("")
print("")
print("")
print("")
```

for Loop Syntax



```
for item in iterable_object:
    # Logic goes here
```

★ Iterable_object: a list of numbers, a string of characters, a range etc.

★ Item: temporary variable used inside the for loop to reference the current position of our iterator.

Question:

Can a for loop iterate over a String?

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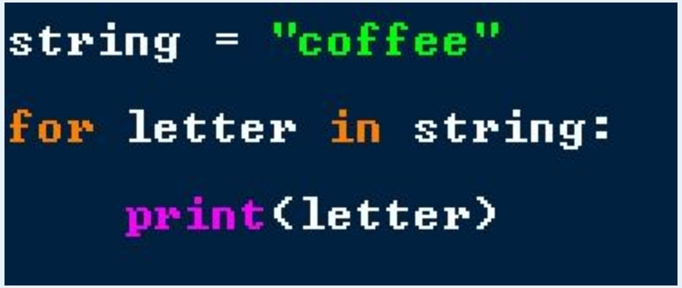
For Loop Example



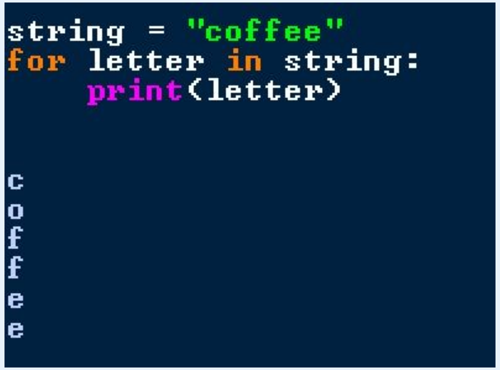
```
string = "coffee"

for letter in string:

    print(letter)
```

★ The above loop will iterate over the string “coffee”.

★ This entails the temporary variable letter being continuously updated with each letter found in “coffee”.

★ This results in the following output:

Example Continued


```
string = "coffee"
for letter in string:
    print(letter)



c
o
f
f
e
e
```

As letter will iterate over every instance of string, we get the output of “coffee” spelled out on separate lines.

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Break and Continue

- ★ Break: The break keyword allows you to stop a loop at any time. We can combine it with a conditional statement to stop a loop at a given condition.
- ★ Continue: The continue keyword allows you to stop a loop at any time and start the next iteration. We can combine it with a conditional statement to start the next iteration at a given condition.

Poll:

Assessment

Wrapping Up

Iteration

Process for repeating a set of instructions.

For Loop

Important and useful for automating repetitive tasks.

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Questions around Iteration and For Loops

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Thank you for joining

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