

Year 9 Topic 5 – Python Programming with sequences

Lesson	Can you?
1 Warm up	<p>Write programs that display messages, receive keyboard input, and use simple arithmetic expressions in assignment statements</p> <p>Use selection (if-elif-else statements) to control the flow of program execution</p> <p>Locate and correct common syntax errors</p> <p>Create lists and access individual list items</p>
2 Playlist	Perform common operations on lists or individual items
3 In a while, crocodile	<p>Use iteration (while statements) to control the flow of program execution</p> <p>Perform common operations on lists or individual items</p> <p>Perform common operations on strings or individual characters</p>
4 The famous for	<p>Use iteration (for statements) to iterate over list items</p> <p>Perform common operations on lists or strings</p>
5 Make a thing	<p>Use iteration (for loops) to iterate over lists and strings</p> <p>Use variables to keep track of counts and sums</p> <p>Combine key programming language features to develop solutions to meaningful problems</p>
6 Wrap up	Apply all the skills covered in this unit

Useful websites

- www.repl.it
- www.blog.teachcomputing.org/tag/pedagogy
- www.pythontutor.com/visualize.html
- www.trinket.io
- www.projects.raspberrypi.org
- www.docs.python.org/3
- www.gutenberg.org/ebooks/345



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Key Stage 3 – COMPUTING

Lists are used to store multiple items in a single variable.

Lists are one of 4 built-in data types in Python used to store collections of data, the other 3 are Tuple, Set, and Dictionary, all with different qualities and usage.

Lists are created using square brackets:

```
thislist = ["apple", "banana", "cherry"]  
print(thislist)
```

List Comprehension offers the shortest syntax for looping through lists:

Example

A short hand **for** loop that will print all items in a list:

```
thislist = ["apple", "banana", "cherry"]  
[print(x) for x in thislist]
```

Try it Yourself »

Example

Print all items, using a **while** loop to go through all the index numbers

```
thislist = ["apple", "banana", "cherry"]  
i = 0  
while i < len(thislist):  
    print(thislist[i])  
    i = i + 1
```

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List items are indexed and you can access them by referring to the index number:

Example

Print the second item of the list:

```
thislist = ["apple", "banana", "cherry"]  
print(thislist[1])
```

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Note: The first item has index 0.

You can loop through the list items by using a **for** loop:

Example

Print all items in the list, one by one:

```
thislist = ["apple", "banana", "cherry"]  
for x in thislist:  
    print(x)
```

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