



F3.3 Lists: one-dimensional arrays

Strings, lists and records · GCSE · OCR J277 2.2.3, AQA 8525 3.2.6, Edexcel
1CP2 6.3.1 · about 15 min

Name _____

Class _____

Date _____

What this lesson is about

Making, indexing and changing a list; append, remove, in, split and join.

- Making and reading a list
- Using items
- Changing a list
- An empty list that fills up
- Is it in the list?
- Lists and strings

Questions

6 marks in all

1. What does this program print?

[1 mark]

```
legs = [20, 15, 30]
print(legs[0], legs[-1], len(legs))
```

2. What does this program print?

[1 mark]

```
notes = [262, 294, 330]
notes[0] = 523
notes.append(349)
print(notes)
```

3. `legs = [20, 15, 30]` . What happens with `print(legs[3])` ?

[1 mark]

- ☐ A IndexError: there is no index 3
- ☐ B It prints 30
- ☐ C It prints 0
- ☐ D It prints None

4. Why use an array rather than separate variables such as `reading1`, `reading2`, `reading3`?

[1 mark]

- ☐ A One name holds them all, and a loop can process every item
- ☐ B Arrays use less electricity
- ☐ C Separate variables cannot hold numbers
- ☐ D Arrays are always sorted

5. What does this program print?

[1 mark]

```
sides = "30,20".split(",")
print(sides)
print(int(sides[0]) + int(sides[1]))
```

6. What does this program print?

[1 mark]

```
colours = ["red", "green"]
print("green" in colours, colours.index("green"))
```

The task: a changing tune

Start with `notes = [262, 294, 330]`. Change the first note to 523, add 349 to the end, print how many notes there are as `4 notes`, then play every note in the list for 0.3 seconds. Change the list with list operations, not by typing a new list.

```
# the two lines every program starts with: the commands, then the robot
from bugbot import *
connect()

notes = [262, 294, 330]
```

Plan your program here, then type it in and press Run.



Do it on the robot

www.bugbotlab.com/learn/f3-3-lists-one-dimensional-arrays/

The simulator checks it and tells you when it passes. Nothing to install, no account.

Challenges

1. Make a list of four colours and show each on the LED with a loop over the indexes.
2. Ask for side lengths as `30, 20, 30, 20` and drive them.
3. What happens with `notes[10] = 440`? And with `notes.append(440)` ten times?