



F1.3 Calling functions

Programming basics · GCSE · OCR J277 2.2.3, AQA 8525 3.2.10, Edexcel

1CP2 6.6.1 · about 15 min

Name _____

Class _____

Date _____

What this lesson is about

Arguments, telling and asking, and notes on the robot's buzzer.

- A name, then brackets
- Arguments you can hear
- No brackets, nothing happens
- Some functions need nothing, some need several things
- Some arguments have names
- Telling versus asking
- The robot's functions so far

Questions

8 marks in all

- In `led("red")`, what is `"red"` called? [1 mark]
 - ☐ A An argument
 - ☐ B A function
 - ☐ C A variable
 - ☐ D A comment
- What happens when a program contains `stop` with no brackets? [1 mark]
 - ☐ A Nothing: the function is named but not called, and there is no error
 - ☐ B The robot stops
 - ☐ C Python shows a `SyntaxError`
 - ☐ D The program ends
- Which of these functions ask the robot something and give back an answer? [1 mark]

Tick every answer that is true.

 - ☐ A `battery()`
 - ☐ B `distance()`
 - ☐ C `led("red")`
 - ☐ D `stop()`
- A program has the line `battery()` on its own. What does it show? [1 mark]
 - ☐ A Nothing: the answer comes back and is thrown away
 - ☐ B The battery percentage
 - ☐ C An error
 - ☐ D The word battery

5. In `forward(50, distance=20)`, what is `distance=20` called? (two words) [1 mark]
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6. `led(255, 0, 0)` makes the LED red. What does `led(0, 0, 255)` make it? [1 mark]
- ☐ A Blue
 - ☐ B Red
 - ☐ C Green
 - ☐ D Off
7. `tone(440, 0.5)` plays a note. What does the `0.5` set? [1 mark]
- ☐ A How long the note lasts, in seconds
 - ☐ B How high the note is
 - ☐ C How loud the note is
 - ☐ D Which robot plays it
8. `battery()` gives back a value and `led("red")` does not. In exam terms, which is a function and which is a procedure? [1 mark]
- ☐ A `battery()` is a function, `led("red")` is a procedure
 - ☐ B `battery()` is a procedure, `led("red")` is a function
 - ☐ C Both are procedures
 - ☐ D Both are variables

The task: lights and numbers

Make the LED blue, then print two lines: `battery: <number>` and `ahead: <number>`, using the robot's answers. The robot must not drive.

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

led("...")
print("battery:", ...)
```

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



Do it on the robot

www.bugbotlab.com/learn/f1-3-calling-functions/

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

Challenges

1. Flash the LED red, then green, then blue, one second each, then off.
2. Print the distance, drive 10 cm, print the distance again.
3. Play the first line of a tune you know. Middle C is 262 Hz, D 294, E 330, F 349, G 392, A 440, B 494.