



10.1 A program in a game

Competing · Robot club · about 14 min

Name _____

Class _____

Date _____

What this lesson is about

info(), your own log, and the loop every game program is built from.

- What changes
- The shape of a game program
- Try one

Questions

6 marks in all

1. A student copies the Sprint and Stop program into the task. It stops with `NameError: name 'info' is not defined`. Why? [1 mark]

- ☐ A `info()` only exists in a game, and in a task no game is telling you anything
- ☐ B `info` needs importing separately
- ☐ C The stop box is called something else in tasks
- ☐ D Tasks do not allow while loops

2. Which of these are true of a program in a game? [1 mark]

Tick every answer that is true.

- ☐ A Other robots are on the mat
- ☐ B The game tells you things through `info()`
- ☐ C Everyone in the game can read your `print()` lines
- ☐ D There is no task to pass, just a result
- ☐ E The program keeps running until the game ends

3. Put the four parts of a game loop in order. [1 mark]

Number the lines 1 to 4 to put them in the right order.

- ___ Look: read the sensors and what the game says
- ___ Wait a moment
- ___ Decide
- ___ Move

4. What does this program print?

[1 mark]

```
finish_y = 55
for y in [10, 40, 52]:
    gap = finish_y - y
    if gap > 25:
        print(gap, "forward(90)")
    elif gap > 4:
        print(gap, "forward(30)")
    else:
        print(gap, "stop")
```

5. In the game loop, why does each pass end with `wait(0.1)` ?

[1 mark]

- ☐ A To let a moment pass, so the robot keeps hearing from you
- ☐ B To make the robot slower than the bots
- ☐ C Because `info()` only updates once a second
- ☐ D The game ends if you do not wait

6. In the task the target is 55 cm up the mat and the red strip starts 5 cm beyond it. `position()[1]` reads 58. How many cm are you from the red strip?

[1 mark]

The task: stop on the line

Same idea, on your own: drive 55 cm up the mat and stop within 5 cm of that point, without crossing into the red strip five centimetres beyond it. Remember `position()` counts from where the robot started.

```
from bugbot import *
connect()

# position() counts from the start, so the line is 55 cm up from here
forward(70)
wait(1)
stop()
print("stopped at", position())
```

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



Do it on the robot

www.bugbotlab.com/learn/10-1-a-program-in-a-game/

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

Challenges

1. Print the gap every time round the loop, race, then read your log to see where the braking started.
2. Make the light amber while creeping and green once stopped.
3. What is the fastest first speed that still stops in time?