



## F6.6 The IDE

Robust programs · GCSE · OCR J277 2.5.2, AQA 8525 3.4.4, Edexcel 1CP2  
6.1.5 · about 12 min

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Name \_\_\_\_\_

Class \_\_\_\_\_

Date \_\_\_\_\_

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### What this lesson is about

Editors, error diagnostics, the run-time environment and the translator, in the cell you use.

- The editor
- Error diagnostics
- Running and debugging
- The translator
- The rest of the toolbox

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### Questions

4 marks in all

1. Which are IDE tools listed by OCR?

[1 mark]

Tick every answer that is true.

- ☐ A Editors
- ☐ B Error diagnostics
- ☐ C Run-time environment
- ☐ D Translators

2. How does syntax highlighting help a programmer?

[1 mark]

- ☐ A A missing quote or keyword stands out because the colours change
- ☐ B It runs the program faster
- ☐ C It fixes errors automatically
- ☐ D It translates the code

3. What does stepping through a program in a debugger do?

[1 mark]

- ☐ A Runs it one line at a time so values can be watched
- ☐ B Deletes lines with errors
- ☐ C Compiles it to machine code
- ☐ D Saves a copy

4. Which IDE feature reports the line and type of an error?

[1 mark]

- ☐ A Error diagnostics
- ☐ B Code completion
- ☐ C Folding
- ☐ D Line numbers only

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### The task: use the diagnostics

This program should flash the LED three times, beeping each time, and then print `flashed 3 times`. It has a syntax error, a runtime error and a logic error. Use the squiggle, the error message and Debug to find and fix all three.

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

flashes = 0
for i in range(3)
    led("blue")
    tone(660, 0.1)
    wait(0.2)
    led("off")
    flashes = 1
print("flashed", flashes, "times")
```

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



**Do it on the robot**

[www.bugbotlab.com/learn/f6-6-the-ide/](http://www.bugbotlab.com/learn/f6-6-the-ide/)

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

## Challenges

1. Download a program from a cell as a `.py` file and open it in another editor. Which features are missing?
2. Use the saved versions button to keep a working copy of a program, break it on purpose, then go back.
3. List the IDE features you used in this lesson under OCR's four headings: editors, error diagnostics, run-time environment and translators.