

Debugging

KS2 Computing · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

A program to make a robot say 'hello' three times only says it twice. What's likely wrong?

Step 1 · Compare what should happen to what actually happens

One repeat is missing

Answer: The 'repeat' number is probably set to 2 instead of 3

Check: Comparing expected vs actual behaviour is the first step in debugging.

2. Now try one with the steps

Why is it useful to test your code after every small change, rather than writing everything then testing once?

Step 1 · If you test often, a bug appears right after the change that caused it

Step 2 · If you test only at the end, many changes could have caused the bug

Answer:

3. Practice

Have a go at each one. There is space underneath to work it out.

1. What do we call an error in a computer program?

2. What do we call the process of finding and fixing errors in code?

3. A loop meant to repeat 5 times only repeats 4 times. What's the likely bug?

4. Why is it a good idea to test code in small chunks rather than all at once?

5. A program to draw a triangle only turns twice instead of three times. Explain what's wrong and how to fix it.

6. Why might a programmer 'trace through' code step by step on paper before running it on a computer?

4. Before you hand it in

Assuming a program 'must' be correct just because it was carefully written.

Always test your code and compare the actual result to what you expected.

Making many changes at once when trying to fix a bug.

Make one small change at a time, testing after each one.