

Kit's Code-Cracking Guide: Mastering Debugging

Learning objective: To understand how to identify, predict, and correct errors in computer programs (debugging) effectively.

Use this writing frame to document how you found and fixed a 'bug' in your code. Imagine you are working alongside Kit the fox to make your program run perfectly.

When I first ran my program, it did not produce the result I expected, so I knew I had to become a code-detective.

Word bank: algorithm · syntax error · logical error · predict · systematically · consequently · furthermore · trial and error · unexpected output · resolution

1. What was the initial goal of your program, and what unexpected behaviour occurred when you ran it? Start by saying: My program was intended to... (2 marks)

2. How did you go about finding the bug? Describe your search process: To locate the error, I carefully checked... (2 marks)

3. What type of error was it (a syntax error or a logical error) and why? Explain your reasoning: I identified the bug as a... (3 marks)

4. What steps did you take to fix the code? Start by saying: Once I found the problem, I decided to... (2 marks)

5. What did you learn about the importance of testing code frequently? Conclude by saying: I have learned that debugging is a vital skill because... (2 marks)

Extension challenge: Write a short 'Debugging Tip' for other students. If someone is stuck on a persistent bug, what strategy would Kit the fox suggest they try next?