

Kit's Guide to Masterful Debugging

Don't let bugs bite your code—become a digital detective with Kit the Fox!

- A bug is any mistake in your code that prevents the program from running exactly as you intended.
- Debugging is the systematic process of finding the source of an error and fixing it so your algorithm works perfectly.
- Decomposition helps you debug by breaking a large, complex task into smaller, manageable chunks that are easier to check.
- Syntax errors are like spelling mistakes in your code; the computer cannot understand your instructions because the language is incorrect.
- Logic errors occur when the computer follows your instructions, but the outcome isn't what you wanted—it's like following a recipe for a cake but adding salt instead of sugar!
- Testing is key! Always run your program regularly to see if it behaves the way you expect at every step.

Did you know? Did you know that the term 'computer bug' was popularised by Grace Hopper in 1947? She and her team found a literal moth stuck in a relay of the Harvard Mark II computer, which was causing the system to crash. They taped the moth into their logbook with the note: 'First actual case of bug being found'.

Key vocabulary: Algorithm · Bug · Debugging · Syntax error · Logic error · Sequence · Decomposition