Kit’s Coding Challenge: The Robot Repair

Learning objective: To understand algorithms and the importance of precise instructions (sequences) in computer programming.

Kit the fox has built a robot to help tidy the library, but the robot's code is jumbled! Read the list of actions below. Your task is to sequence them in the correct order to help the robot find a lost book and return it to the shelf. Write the numbers 1 to 6 in the boxes provided to create the perfect algorithm.

Word bank: Algorithm · Sequence · Debug · Program · Instruction · Input

1. 1. [ ] The robot moves forward three steps to the table. (1 mark)

2. 2. [ ] The robot picks up the book carefully. (1 mark)

3. 3. [ ] The robot turns 90 degrees to the right. (1 mark)

4. 4. [ ] The robot scans the table for the book. (1 mark)

5. 5. [ ] The robot walks to the bookshelf. (1 mark)

6. 6. [ ] The robot places the book on the shelf. (1 mark)

Draw: Draw a simple map showing the path the robot took. Use arrows to show the direction of each movement (forward, turn, etc.) to match your sequence above.

Extension challenge: Imagine the robot hits an obstacle! Explain in two sentences why it is important for a programr to 'debug' their code if the robot moves in the wrong direction.