

## Kit's Code-Cracking Challenge

*Learning objective: To understand core programming concepts including algorithms, debugging, selection, and variables.*

Join Kit the fox in the digital forest! Read each question carefully and circle the correct answer or write your response in the space provided. Good luck, young programrs!

Answer Key: 1. A (Algorithm), 2. False, 3. Debugging, 4. C (Variable), 5. True, 6. Sequence, 7. B (If/Then), 8. True, 9. A (Loop), 10. True.

*Word bank: Algorithm · Debug · Variable · Loop · Selection · Sequence*

**1. 1. What do we call a precise set of instructions used to complete a task? A) Algorithm\* B) Recipe C) Script D) Pattern (1 mark)**

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**2. 2. True or False: You only need to test your code once at the very end. (1 mark)**

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**3. 3. What is the technical term for finding and fixing an error in a computer program? (1 mark)**

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**4. 4. Which of these is a placeholder for a value that might change while the program is running? A) A constant B) A loop C) A variable\* D) A bug (1 mark)**

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**5. 5. True or False: An algorithm must always be followed in the correct order to work properly. (1 mark)**

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**6. 6. What is the specific word for the order in which instructions are carried out in a program? (1 mark)**

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**7. 7. Which programming concept allows a computer to make a choice based on a condition? A) Sequence B) Selection\* C) Looping D) Printing (1 mark)**

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**8. 8. True or False: Computers follow instructions exactly as they are written, even if the program made a mistake. (1 mark)**

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**9. 9. Which block of code would you use to repeat an action multiple times? A) Loop\* B) Selection C) Debug D) Variable (1 mark)**

**10. 10. True or False: Decomposition means breaking a large, complex problem down into smaller, manageable parts. (1 mark)**

**Draw: Draw a flowchart showing the steps to make a cup of tea or toast, using boxes for instructions and diamonds for decisions.**



*Extension challenge: Imagine you are programming a robot to tidy your bedroom. Write down a 5-step algorithm for the robot to follow to ensure all the toys are put back in the toy box.*