



DIGITAL LITTERACY

Exploring Algorithm Sequencing Story Maze

A way of understanding algorithm sequencing is by examining the key moments in a story. If an aspect of the plot was to take place in a different order, the outcome of the story would be completely different.

Let's break down into algorithms the story of *Goldilocks and the Three Bears* to create the proper sequence of events that unfold in this classic fairy tale. Use the grid below to map out how to represent the story actions into sequence. Remember, an action might take more than one sequence to complete.

Characters

1. Goldilocks
2. The bears

Variables (objects to place)

- Porridge
- Chairs
- Beds
- House entrance
- Forest path

Rules:

- Characters can only move up and down, left and right.
- Characters cannot move through an object.



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Follow along these sequences

1. **Story:** The three bears make porridge for breakfast, but it's too hot so they decide to go for a walk (action 1). They leave for their walk in the forest while it cools off (action 2). They follow the forest path (action 3), and stop at a clearing (action 4).

Sequence:

1. The 3 Bears start at **O10**
 2. $\uparrow 7$ to **H10** (action 1)
 3. $\leftarrow 9$ to **H1** (action 2)
 4. $\uparrow 6$ up to **B1** (action 3)
2. **Story:** Goldilocks walks into the forest (action 1). She stumbles upon the house and smells porridge from the kitchen window (action 2). She finds the front door of the house (action 3) and enters (action 4). She goes to the three bears' kitchen where she samples the porridge (action 5).

Sequence:

1. Goldilocks starts at **A7**
2. $\downarrow 8$ to **I7** (action 1)
3. $\rightarrow 3$ to **I10** (action 2)
4. $\downarrow 6$ to **O10** (action 3)
5. $\leftarrow 1$ to **O9** (action 4)
6. $\uparrow 4$ to **K9** (action 5)

Note: The house is an obstacle, and can only be entered through square O9.
What other sequence could you have used to enter the house?

3. **Story:** Once in the kitchen, Goldilocks tries Papa Bear's porridge, but it is too hot (action 1). Then she tries Mommy Bear's Porridge, but it's too cold (action 2). Finally, she tries Baby Bear's porridge and it's just right (action 3).

Sequence:

1. Goldilock starts at **K9**
2. $\leftarrow 1$ to **K8**, pause (action 1)
3. $\leftarrow 1$ to **K7**, pause (action 2)
4. $\leftarrow 1$ to **K6**, pause (action 3)



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4. **Story:** Goldilocks starts feeling tired after eating all that porridge. She moves to the living room, where she sees three chairs (action 1). She tries the first one but it's too big (action 2). She tries the second one, but it's even bigger (action 3). At last, she tries the third chair, and it is just right (action 4).

Fill in the appropriate sequence told in the story. You get to decide where the chairs are located in the house. Determine how many steps are in your sequence.

Sequence:

1. Goldilocks starts at K6
2. _____
3. _____
4. _____

5. **Story:** Goldilocks explores the house, and finds the bedroom. Exhausted from her adventure, she decides to have a nap. She tries the first bed, but it's too hard, she tries the second bed, but it's too soft. She then tries the third bed and it's just right.

Fill in the appropriate sequence told in the story. First, read through and identify where the actions are, then translate those actions into the sequence list below. You get to determine where the beds are located in the house, but your sequence must finish one square away from the door at O9. Determine how many steps are in your sequence.

Sequence:

1. _____
2. _____
3. _____
4. _____
5. _____



6. Write the story that explains the sequence written below.

1. Bears starts at **B1**
2. → 3 to **B4**
3. ↓ 4 to **F4**
4. →3 to **F7**
5. ↓3 to **I7**, pause
6. →3 to **I10**
7. ↓6 to **O10**

Story:

7. Write both the story and sequences that will end the fairy tale.

Sequence:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

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Grid Game: Goldilock and the Three Bears

	1	2	3	4	5	6	7	8	9	10	11	12
A										G		
B												
C												
D												
E												
F												
G												
H												
I												
J												
K												
L												
M												
N												
O									E	B		
P												
Q												
R												
S												
T												

B = Bear starting point

G = Goldilocks starting point

■ = House delimitation

E = House entrance