FSM (Finite State Machine) Self-Assessment Quiz

Game AI – English Version

This quiz helps you test your understanding of FSM concepts, structure, transitions, and Unity implementation.

Section 1 — Conceptual Understanding

1. What is a Finite State Machine (FSM) in game AI?

A) A system that randomly switches behaviors
B) A structured model with states and transitions
C) A neural network used for decision-making
D) A pathfinding algorithm

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2. Which of the following is *NOT* a typical use of FSM in games?

A) Enemy patrol and chase behaviors
B) UI menu navigation
C) Weather simulation using physics equations
D) Player movement state switching (Idle → Run → Jump)

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3. What does a “state” represent in an FSM?

A) A possible behavior mode
B) A set of animations
C) A folder in Unity
D) A random event trigger

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4. Which statement best describes a “transition”?

A) A visual animation effect
B) A rule that moves the FSM from one state to another
C) A sound effect that plays during combat
D) A Unity prefab setting

Section 2 — FSM Logic & Behavior

5. In an enemy FSM, what condition usually triggers Chase state?

A) Reaching a waypoint
B) Player enters detection range
C) Player presses a key
D) Enemy receives damage

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6. Patrol → Idle transition commonly happens when:

A) Patrol time ends
B) Enemy health is low
C) Player is too strong
D) Scene begins

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7. In a 3-state FSM (Idle, Patrol, Chase), which transition is invalid?

A) Idle → Patrol
B) Patrol → Chase
C) Chase → Idle
D) Idle → Attack

Section 3 — Unity Implementation

8. In Unity, FSM states are often represented by:

A) Scenes
B) Enums
C) Sprites
D) Tags

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9. Which Unity method is typically used to update FSM logic every frame?

A) Start()
B) Update()
C) Awake()
D) OnDestroy()

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10. What is the purpose of `Vector3.Distance()` in an FSM?

A) Measure animation frames
B) Calculate distance between enemy and player
C) Randomly reposition objects
D) Create particle effects

Section 4 — Short Answer Questions

11. Explain in your own words what an FSM is and why it is useful in game AI.

(Write your answer here)

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12. List three states that commonly appear in enemy AI FSMs.

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13. Describe one real example where an FSM is used outside of game AI.

(Hint: elevators, vending machines, UI systems)

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14. Why is FSM easier to debug compared to more advanced AI systems?

(Write your reasoning)

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15. Draw a simple FSM diagram with at least two states and their transitions.

(You may sketch on paper if answering offline.)

Answer Key (Hide if testing yourself)

▶ Click to expand

1: B
2: C
3: A
4: B

5: B
6: A
7: D
8: B
9: B
10: B