Slot Machine • Code Explanation

Slot Machine in C++ and SFML
Detailed explanation of the code + defense questions
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What the program does:
Opens an SFML window and displays three “reels” (text). Pressing SPACE spins the slot: deducts $200, selects three random symbols from a list, and awards winnings based on the rules. The '=' key shows the total balance.

Key controls:
SPACE (intro) – Start the game (hide instructions)
SPACE (game) – Spin: -$200, update symbols, check win
= – Show TOTAL balance
Close window – Exit program

1. Program structure
The entire program is inside main() and consists of:
• Initialization (random generator, window, fonts, texts, balance variables)
• Main loop (event handling)
• Rendering (drawing intro or game interface)

2. Included libraries
SFML/Graphics.hpp – window, text, colors, shapes
vector – std::vector container
cstdlib – rand(), srand()
ctime – time() for random seed
string – std::string

3. Random initialization
srand(time(nullptr)) ensures different random results each run.

4. Window creation
RenderWindow is the main SFML object handling events and drawing.

5. Font and text
SFML text requires a loaded font. It is recommended to check if the font loads successfully.

6. Game variables
balance – current money
spinCost – cost per spin (constant)

7. Reels data
A vector of strings stores possible symbols. Three sf::Text objects represent reels.

8. Visual separators
Two thin RectangleShape objects divide the reels visually.

9. Interface text
scoreText shows balance, resultText shows win/lose messages.

10. Intro screen
Intro mode blocks gameplay until SPACE is pressed.

11. Main loop
Handles events, clears screen, draws objects, and displays frames.

12. Event handling
pollEvent() retrieves window and keyboard events.

13. Mode switching
A boolean variable controls intro/game state.

14. Spin logic
Deducts money, generates random symbols, updates reels.

15. Win check
777-777-777 → Jackpot ($10000)
Any three equal symbols → Win ($1000)
Else → Lose

16. Balance update
std::to_string converts balance to text.

17. '=' key
Displays TOTAL balance without changing it.

18. Rendering
Intro screen or game scene is drawn each frame.

19. Possible improvements
• Balance check before spin
• Font load check
• Replace rand() with mt19937
• Split logic into functions
• Add animations and probabilities

20. Common defense questions
Prepared answers about randomization, loops, vectors, and SFML usage.