

A. Decision Tree

The decision process I am implementing on the Arms & Range Buddy website is the Firearm Safety Quiz, which evaluates user knowledge on basic safety, range etiquette, and safe storage practices. This quiz guides users through a series of questions, keeps track of their correct answers, and provides a final performance rating. The process uses logical decisions at each step to determine scoring, question progression, and feedback display.

Decision Node 1 – Answer Evaluation

The first decision occurs when a user selects an answer. The program determines whether the selected response is correct.

- If the answer is correct, the user's score increases by one point, and the quiz proceeds to the next question.
- If the answer is incorrect, the score remains unchanged, and the quiz still advances to the next question.

This node ensures that each question is evaluated accurately and that the user's performance reflects their understanding of the material. It serves as the foundation for scoring and learning feedback.

Decision Node 2 – Quiz Progression

After each question, the system checks whether more questions remain in the quiz.

- If additional questions are available, the next one is displayed.
- If no questions remain, the process moves to the results phase for score evaluation.

This node controls the quiz's flow, ensuring that all questions are presented before generating a final score. It allows for a continuous, linear quiz experience without interruption.

Decision Node 3 – Final Score Evaluation

Once the user has completed all questions, the program evaluates the final score.

- If the user scores 4 out of 4 a congratulatory message such as "Excellent work! You've demonstrated strong firearm safety knowledge" is displayed.
- If the user scores below 4 out of 4, a message such as "Good effort! Review the safety resources and try again to improve your score" appears.

This node determines the final outcome of the quiz and provides tailored feedback based on performance. It reinforces the learning process by encouraging users to review the material when necessary.

A. Flowchart

