Simulate the Hot Potato Game Using a Queue

Objective

Apply the concepts of stacks and queues to develop a real-world simulation

Task

1. Create a program to simulate the Hot Potato game, where children pass a "potato" around in a circle

2. Use a queue to represent the players and their order in the game

3. Implement the following logic:

• Players are eliminated in a random or fixed sequence (e.g., every 3rd person is eliminated)

• The last remaining player is the winner

4. Ask the user to input:

• A list of player names

• The number that determines when a player is eliminated (e.g., every 3rd player)

Requirements

• Use a queue to manage the players dynamically

• Ensure the program handles edge cases, such as an empty list or invalid input

• Use meaningful method names and comments to improve code readability

Example Output

Enter the players (comma-separated): Alice, Bob, Charlie, Dave, Eve

Enter the elimination number: 3

Eliminated: Charlie

Eliminated: Eve

Eliminated: Bob

Eliminated: Dave

Winner: Alice

Deliverables

Submit a .cs file containing the program. Ensure it is:

• Well-commented

• Properly formatted for readability

**Questions for this assignment**

What is the key advantage of using a queue data structure in the Hot Potato simulation compared to other data structures?