Data Structures Used In Zombie Game Simulation.

**1. Arrays**

* The game grid is represented as a 1D array of cells (or can be thought of as a 2D grid flattened).
* Player, zombies, and health packs positions are tracked by (x,y) coordinates mapped to array indices.

**2. Structs/Objects**

* Player, Zombie, and Health Pack entities are modeled using structures (in C) or objects (in JS) containing their properties like coordinates, health, and state.

**3. Search and Filtering**

* Finding adjacent zombies or health packs involves checking neighbors in the grid.
* Filtering alive zombies using filters or loops.

**4. Grid/Matrix Logic**

* Neighbor checking, movement constraints, and adjacency checks use matrix/grid logic.
* Converting between 2D coordinates and 1D indices for array access.

**5. Iteration and Loops**

* Game loop advances each round with repeated iterations over zombies and game grid.
* Use loops to update game state and handle movements.

**6. Conditional Logic and Decision Making**

* Health checks, attack ranges, game over conditions apply conditional decision structures.

**7. Animation (Algorithmically)**

* Movement animations and event triggers simulate state transitions over time.