

# Project Zero Pseudocode

## Best Available

**Parameters:** auditorium, row, total quantity

**Returns:** starting seat

- For 1 to N-x+1 (N = number seats in row, X = total number of tickets)
  - For 1 to total quantity
    - Read character
    - If character != period
      - Break
  - If loop ends and all seats checked are empty
    - Calculate distance
      - $(\text{outer loop counter} + (\text{total quantity} - 1) / 2) - (N + 1) / 2$
    - Keep smallest distance and starting seat number
- Return starting seat number
  - -1 if no best seats available

## Display Auditorium

**Parameters:** auditorium

**Returns:** nothing

- Display column header
- For 1 to total rows
  - Read line
  - Display row number
  - Display line
    - Change non-periods to #

## Reserve Seats

**Parameters:** auditorium, row, seat, adult quantity, senior quantity, child quantity

**Returns:** nothing

- For each ticket type
  - For 1 to quantity
    - Write appropriate letter to auditorium[row][seat]

## Check Availability

**Parameters:** auditorium, row, seat, total quantity

**Returns:** Boolean

- For 1 to quantity
  - Read character at auditorium[row][seat]
  - If character is not a period
    - Return false
- Return true

## Display Report

**Parameters:** auditorium

**Returns:** nothing

- For 1 to rows
  - For 1 to seats
    - Read character at auditorium[row][col]
    - Increment appropriate counter based on character read
    - A = adult, S = senior, C = child, period = empty
- Print report
  - Total seats
  - Total sold
  - Adult sold
  - Child sold
  - Senior sold
  - Total sales

## Main

- Loop (do...while not exit)
  - Print main menu
  - Get user input
  - If user does not want to exit
    - Display auditorium
    - Ask user for row, seat and quantities (adult, child, senior)
    - Validate input for each input
      - Loop if not valid
    - Check if seats are available
      - If available reserve seats
    - If seats not available
      - Find best available seats
      - Ask user to reserve best available (if found)
      - If user accepts
        - Reserve seats
- Print report