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0. Initialise
  0.1 set FLIGHT_COST_TO_COMPANY = 15000

1. Define create_seating_layout
  1.1 set seat_layout to a 2D list of seat numbers (4 rows × 5 columns)
  1.2 return seat_layout

2. Define is_window_seat(seat_number)
  2.1 set layout = create_seating_layout
  2.2 set window_seats = first row + last row of layout
  2.3 if seat_number in window_seats then
    return True
  else
    return False
  ifend

3. Define generate_random_seating
  3.1 set layout = create_seating_layout
  3.2 set part_load to empty list
  3.3 loop for each row in layout
    3.3.1 create new_row
    3.3.2 loop for each seat in row
      3.3.2.1 set sold = random 0 or 1
      3.3.2.2 add sold to new_row
    loopend
    3.3.3 add new_row to part_load
  loopend
  3.4 return part_load

4. Define generate_full_load_flags
  4.1 set layout = create_seating_layout
  4.2 set full_flags to empty list
  4.3 loop for each row in layout
    4.3.1 add row of 1s to full_flags
  loopend
  4.4 return full_flags

5. Define calculate_revenue(flags, seat_numbers, window_price, lunch_price)
  5.1 set aisle_price = window_price divided by 2
  5.2 set totals for window seats, aisle seats, row revenues, and overall revenue to 0
  5.3 loop over paired rows in flags and seat_numbers
    5.3.1 set row_total = 0
    5.3.2 loop over each seat_flag and seat_number
      5.3.2.1 if seat_flag = 1 then
        update total seats sold
        if is_window_seat(seat_number) then
          update window seat count and revenue
        else
          update aisle seat count and revenue
        ifend
        update row_total
      ifend
    loopend
    5.3.3 add row_total to list of row revenues
    5.3.4 update total revenue
  loopend
  5.4 if lunch_price > 0 then
    5.4.1 calculate lunch_revenue = total seats sold × lunch_price
  else
    5.4.2 set lunch_revenue = 0
  ifend
  5.5 add lunch_revenue to total revenue
  5.6 return all revenue totals

6. Define calculate_break_even(total_revenue)
  6.1 if total_revenue <= 0 then
    return "N/A"
  else
    6.1.1 calculate flights = FLIGHT_COST_TO_COMPANY ÷ total_revenue
    6.1.2 return flights rounded up
  ifend

7. Define display_analysis(scenario_name, all revenue values, flags)
  7.1 print scenario name
  7.2 print window and aisle revenue summary
  7.3 print row-by-row revenues
  7.4 print total revenue and flights needed to break-even
  7.5 if lunch revenue > 0 then
    7.5.1 print the seating plan using flags
  ifend

8. Main Program
  8.1 input window seat price
  8.2 input lunch price
  8.3 set seat_numbers = create_seating_layout

  8.4 # Full Load
  8.4.1 set full_flags = generate_full_load_flags
  8.4.2 calculate full_results = calculate_revenue(full_flags, seat_numbers, window_price, lunch_price)
  8.4.3 calculate full_break_even = calculate_break_even(total revenue)
  8.4.4 display_analysis for FULL LOAD

  8.5 # Part Load (Random Single Run)
  8.5.1 set part_flags = generate_random_seating
  8.5.2 calculate part_results = calculate_revenue(part_flags, seat_numbers, window_price, lunch_price)
  8.5.3 calculate part_break_even = calculate_break_even(total revenue)
  8.5.4 display_analysis for PART LOAD

9. End Program

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