1. \*\*Determine Number of Rooms:\*\*

- INPUT: Prompt the user for the number of rooms.

- STORE: Number of rooms.

2. \*\*For Each Room, Gather Details and Calculate Area:\*\*

- INPUT: Length, width, height of the room for walls and ceiling.

- INPUT: Number of doors, number of windows.

- Black Box 1: Calculate Wall and Ceiling Area.

a. CALCULATE: Ceiling area as length \* width.

b. CALCULATE: Wall area as (2 \* length \* height) + (2 \* width \* height).

- Black Box 2: Calculate Door and Window Area.

a. CALCULATE: Door area as standard door size \* number of doors.

b. CALCULATE: Window area as standard window size \* number of windows.

- Black Box 3: Determine Total Paintable Area for the Room.

a. CALCULATE: Total room area as (wall and ceiling area) - (door and window area).

b. STORE: Room area.

3. \*\*Calculate Total Area to Be Painted:\*\*

- CALCULATE: Sum of all room areas.

- STORE: Total area to be painted.

4. \*\*Determine Paint Needs (Black Box 4):\*\*

- INPUT: Total area to be painted.

- INPUT: Base coat coverage, finishing coat coverage, costs.

- Black Box 4a: Calculate Base Paint Needs.

a. CALCULATE: Number of base coats.

b. CALCULATE: Number of cans needed for base paint.

c. CALCULATE: Total cost for base paint.

- Black Box 4b: Calculate Finishing Paint Needs.

a. CALCULATE: Number of finishing coats.

b. CALCULATE: Number of cans needed for finishing paint.

c. CALCULATE: Total cost for finishing paint.

5. \*\*Calculate Overall Costs:\*\*

- CALCULATE: Subtotal as sum of base paint and finishing paint costs.

- CALCULATE: Taxes as 13% of subtotal.

- CALCULATE: Total cost as subtotal + taxes.

- STORE: All costs.

6. \*\*Display Results:\*\*

- DISPLAY: Total area to be painted.

- DISPLAY: Itemized listing of paint, unit cost/can, quantities, total cost.

- DISPLAY: Subtotal, taxes, total cost.