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**Program Description:**This program will prompt the user to purchase cinema tickets, with each user allowed to purchase a maximum of 4 tickets. Only 20 tickets will be available for sale in total. The program will ask the user for the total number of tickets they wish to purchase. After each customer’s purchase, the program will show how many tickets remain. The process will repeat until all 20 tickets are sold, and then the program will display the total number of buyers.

**Functions used in the Program (list in order as they are called):**1. **Function Name:** sell\_tickets()  
**Description:** The sell\_tickets() function coordinates the overall ticket-selling process. It starts by initializing the variables used in the program. Then the function uses a loop to continue to allow the user to buy tickets until all the tickets are sold. The program will display a message thanking the user for their purchase and informing them of how many tickets they bought and how many tickets are left. Lastly, once all 20 tickets are sold it will display the total number of buyers.

**Parameters:** None  
**Variables:**

1. total\_tickets : holds the 20 total tickets available for sale

2. max\_tickets : holds the maximum number of tickets per buyer

3. total\_buyers : accumulator for the total number of buyers  
**Logical Steps:**

1. Initialize the total\_tickets, max\_tickets, and total\_buyers variables.

2. Enter a while loop to continue the program until all the tickets are sold

3. Display the total number of buyers

**Returns:** None

2. **Function Name:** handle\_ticket\_purchase()

**Description:** The handle\_ticket\_purchase() function coordinates single buyers ticket purchasing process. It starts by asking the user for input on how many tickets they wish to buy. Then it validates the input, ensuring the input is not more than 4 tickets or 0 or fewer tickets. It also ensures that the purchase does not sell more than the 20 total tickets. Lastly, if the input is valid the function updates the number of total buyers and total tickets.  
**Parameters:**

1. total\_tickets : holds the total number of tickets available for purchase

2. max\_tickets : holds the maximum number of tickets for each buyer to purchase  
**Variables:**

1. total\_tickets : holds the total number of tickets available for purchase

2. max\_tickets : holds the maximum number of tickets for each buyer to purchase

3. tickets\_to\_buy : holds the number of tickets the user input

**Logical Steps**:

1. Enter a while loop to repeatedly ask the user for the number of tickets they want to purchase until the input is valid.
2. Prompt the user for input
3. Validate input
4. Update the remaining tickets
5. Return the number of tickets bought and the updated remaining amount of tickets

**Returns:**

1. total\_tickets : the number of tickets remaining
2. tickets\_to\_buy : the number of tickets the user purchased

**Logical Steps:**

1. Call the sell\_tickets() function.

2. The handles\_ticket\_purchase() function is called in the sell\_tickets() function.

**Link to your repository:** https://github.com/jbrabham23/COP2373