**Technical Design Document**

**Name:** Rosalynn Alejandro

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**Program Description:**

This program will keep track of the sale of 20 cinema tickets, with a max of 4 per sale/customer. This program will display how many tickets are left, and the total number of buyers once all tickets have been sold.

**Functions used in the Program (list in order as they are called):**

1. **Function Name:** main()

**Description:** This is the main function, it calls the tally() function, and displays a message when all tickets have been sold.

**Parameters:** None

**Variables:**

1. tickets, used for a running total of tickets.
2. buyers, used for a running total of buyers.

**Logical Steps:**

1. Initialize the variables.
2. Call the tally(tickets, buyers) function.
3. Displays the total number of buyers when all tickets have been sold.

**Returns:** none

2. **Function Name:** tally(tickets, buyers)

**Description:** This function calculates the number of tickets left, and the total number of buyers.

**Parameters:** tickets, buyers (the accumulator variables are assigned to the tally function).

**Variables:**

1. buy, added to buyers variable if user purchases a ticket
2. tickets\_purchased, subtracted from tickets variable to keep track of how many tickets are left.
3. valid\_purchase, used to exit an inner loop

**Logical Steps:**

1. Uses a while loop to sell all 20 tickets
2. Promps the user if they want to purchase, if yes, it’s added to the buyers accumulator variable.
3. If the user enters anything other than y or n, the program will prompt the user again.
4. Asks the user how many tickets they would like to purchase (max of 4 per transaction)
5. If there are less than 4 tickets remaining, inform the user the amount left and ask for input again.
6. Else, run the calculations for tickets and buyers.
7. Display the number of tickets purchased, and tickets remaining

**Returns:** tickets, buyers (the accumulator variables)

**Logical Steps:**

1. Call the main function
2. Call the tally function, calculate and return tickets and buyers variables to main
3. Have the main function display the results when all tickets have been purchased.

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

**Output Screenshot:**

A screenshot of a computer program

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