**Technical Design Document Template**

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**Program Description:**

This program was created to pre-sell a limited number of movie tickets (20) to its users, capped at 4 tickets per person, and was designed to run until all tickets were sold. Then display the number of buyers.

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

1. **Function Name:** loop\_de\_loop

**Description:** loops the program until there are no more tickets to sell and then lists the buyer\_count once all tickets are sold.

**Parameters:** [Name and type and describe the parameters the function takes in]

**Variables:** references the global variables

* tickets\_available: sets the value for the number of tickets I can sell to 20
* buyer\_count: sets the initial number of buyers to 0

**Logical Steps:** initiates the loop by referencing the global variables, then checking the current assigned value of tickets\_available. Then the loop only applies while the number is greater than 0, so until all the tickets are sold, the function loops and adds 1 to the buyer count for each time the loop is completed successfully. Once the value of tickets\_available is equal to 0, the function will print the number of buyers.

**Returns:** does not return, only print(f’All tickets sold! Total buyers :{buyer\_count}’)

2. **Function Name:** ticket\_prompt

**Description:** prompts the user for the number of tickets they wish to purchase

**Parameters:** [List and describe the parameters the function takes in]

**Variables:** requested- this variable is used to ask and assign the number of tickets asked for, and to limit the number of tickets that can be requested

**Logical Steps:**

1. It asks you how many tickets you want
2. It runs that number through a Boolean operation within an if statement
3. Depending on the input (number or otherwise), the function will print different responses
   1. If the number is within the accepted range, it will send the requested variable to the next function.

**Returns:** returns 0 if the requested number is not an included number between 1 and 4; otherwise, the number returned is the number input

3. **Function Name:**  ticket\_calculations

**Description:** calculates the number of tickets remaining after each purchase

**Parameters:** [Name and type and describe the parameters the function takes in]

**Variables:** requested - this variable is used to subtract the number of tickets bought from the tickets\_available variable - which simply states how many tickets are available to the users

**Logical Steps:** requested and tickets\_available are both fed into this function for the calculations: first, checking if there are enough tickets left to give the user the amount they wanted. The second step is to subtract the tickets sold from the tickets\_available. These numbers are then returned to the loop\_de\_loop function to confirm success and allow the loop to add to the buyer\_count variable.

**Returns:** returns whether or not the transaction was applicable based on the number of tickets requested, as well as the number of tickets left

**Logical Steps:**

1. List the order in which your functions are called.

**Link to your repository:** [Alanys-SG/COP2373: Programming Course Repo](https://github.com/Alanys-SG/COP2373)

**Output Screenshot: (make sure big enough so I can see)**

