**Technical Design Document Template**

**Name:** Ethan Back

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**Program Description:**

The program serves to pre-sell a limited number of tickets. There are 20 tickets for sale, and up to 4 may be sold per person. The program makes sure that each customer only purchases a max of 4 tickets and sells no more than 20 tickets total. Recoding the ticket and customer count until all tickets are sold. Once tickets are sold out it displays the total number of customers.

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

1. **Function Name:** get\_valid\_ticket\_request

**Description:** Prompts the user for input and ensures the ticket request meets all criteria.

**Parameters:** remaining (int) - the number of tickets still available for purchase

**Variables:** s (int) - the number of tickets the user is trying to buy

**Logical Steps:**

1. Use a while True loop to repeatedly prompt the user.
2. Try to convert input to an integer.
3. If the input is invalid (non-integer), show an error and repeat.
4. If the number is:
   1. Greater than 4 → reject
   2. More than available tickets → reject
   3. Less than or equal to 0 → reject
5. If valid, return the number.

**Returns:** a valid number of tickets the user wants to purchase (int)

2. **Function Name:** main

**Description:** Coordinates the sale of tickets, tracks remaining tickets and customer count, and displays updates to the user.

**Parameters:** None

**Variables:**

* MAX\_TICKETS (int) - constant set to 20
* tickets\_remaining (int) - initialized to MAX\_TICKETS
* customers (int) - counts how many buyers have made a purchase
* requested (int) - stores result from get\_valid\_ticket\_request()

**Logical Steps:**

1. Set MAX\_TICKETS = 20
2. Initialize tickets\_remaining = MAX\_TICKETS
3. Initialize customers = 0
4. Use a while loop to run while tickets are still available
5. Call get\_valid\_ticket\_request(tickets\_remaining)
6. Subtract purchased tickets from tickets\_remaining
7. Increment customers by 1
8. Print the number of remaining tickets
9. After loop ends, print the total number of customers

**Returns:** None

**Logical Steps:**

1. Call the ***main ()*** function
2. Call the ***get\_valid\_ticket\_request()*** function within the ***main()*** function

**Link to your repository:** <https://github.com/if-it-Works-it-Works/COP2373>

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

