**Technical Design Document Template**

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**Program Description:**

The program is designed to sell a limited number of 20 cinema tickets to buyers. Each buyer is allowed to purchase up to 4 tickets and the remaining ticket count is printed after every sale.

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

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

**Description:** This function is responsible for the looping and handling of the get\_input() and process\_purchase(int) functions.

**Parameters:** None

**Variables:**

1. tickets (global int) – Used to measure the remaining tickets
2. purchaseAmount (int) – Used to hold the amount of tickets purchased by a user

**Logical Steps:**

1. Define global variable, tickets, in the local scope.
2. Loop get\_input() and process\_purchase() while tickets is greater than zero.
3. Print output.

**Returns:** None

2. **Function Name:** get\_input()

**Description:** This function is responsible for receiving user input and validating its type.

**Parameters:** None

**Variables:**

1. userInput (str) – Used to hold the user input
2. quantityDesired (int) – Used to convert user input to an integer value

**Logical Steps:**

1. Get user input.
2. Try to convert user input into an integer value.
3. If successful, return value.
4. If unsuccessful, throw error and repeat.

**Returns:**

1. quantityDesired (int) – Integer value used to process purchases
2. get\_input() – Used to repeat the function in response to invalid input

2. **Function Name:** process\_purchase(int)

**Description:** This function is responsible for determining if the quantity desired is within the set bounds, and performing arithmetic on the tickets variable.

**Parameters:** quantityDesired (int) – Passed from main()

**Variables:**

1. tickets (global int) – Used to perform arithmetic and compare values
2. quantityDesired (int) – Used to perform arithmetic and compare values

**Logical Steps:**

1. Define global variable, tickets, in the local scope.
2. Check if quantityDesired is greater than 0 and smaller than 4.
3. Check if quantityDesired is less than or equal to tickets.
4. If successful, perform arithmetic and pass.

**Returns:** None

**Link to your repository:** https://github.com/NMHero1/COP2373