**Exercise 1 Technical Design Document**

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**Program Description:**

This program manages cinema ticket pre-sales. There is a total of twenty tickets available, and tickets are limited to four per customer.

**Functions used in the Program (listed in the order they’re called in):**

1. **Function Name:** customer\_prompt ( )

**Description:** This function asks the customer how many tickets they’d like to buy, and will behave differently depending on if the customer can buy that many.

**Parameters:** None

**Variables:**

1. global remaining\_tickets – stores how many tickets are available
2. order – stores how many tickets a customer would like to buy
3. can\_buy – a Boolean that stores whether or not the purchase can be made

**Logical Steps:**

1. lists variables used
2. uses a while loop to keep selling tickets until there are none left
3. in while loop – asks how many tickets the customer wants to buy. Nested if statement for whether or not the customer wants more than 4, since only 4 are allowed per sale. If they want <= 4, buy\_tickets is called. Another nested if statement checks whether true or false was returned, and either completes the sale or lets the customer know there aren’t enough tickets left. If they want more than 4, a print statement reminds them of the rule.

**Returns:** None

1. **Function Name:** buy\_tickets(order)

**Description:** This function calculates how many customers made purchases and how many tickets remain after each purchase. Also tests for if there are enough tickets available for any given purchase.

**Parameters:** order – the amount of tickets a customer wants to buy

**Variables:**

1. global remaining\_tickets – stores how many tickets are available
2. global total\_customers – stores how many customers purchased tickets

**Logical Steps:**

1. lists variables used
2. uses an if statement to check if there are enough tickets to make a sale when there are less than 3 tickets left
3. in the if statement – subtracts order from remaining tickets and adds a customer

**Returns:** True if there are enough tickets, False if there aren’t

**Program Logical Steps:**

1. Prints basic information about ticket sales
2. customer\_prompt() is called, asking customers how many tickets they want.
3. When the while loop in customer\_prompt() finishes, a print statement lets customers know all tickets have been sold
4. Print statement displays how many customers were served

**Link to Repository:** <https://github.com/VBelous1/COP2373/blob/master/Exercise_1.py>

**Output Screenshot:A screenshot of a computer program

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