GAME INSTRUCTIONS

In this experiment, you have the role of an inventory manager. You must decide how many units of a product you want to order and stock to sell to your customers.

You are making these decisions over multiple rounds. In every round, you are deciding on an order quantity. There will be 24 total rounds, split across 2 games. After the first 12 rounds (the first game), the data will reset, and you will continue through another set of 12 rounds (the second game).

You are making your decision under uncertainty. This means at the time of the order decision you do not know the exact demand of the period. However, you do know the probability distribution of the demand. The demand for your product will be shown by a distribution curve, shown on the decision-making page. Demand is independent between rounds.

You have no starting inventory in your warehouse at the beginning of the game. You will order units which then will be delivered before demand is realized. Any leftover inventory after demand is realized will be carried over to the next round, which becomes starting inventory for the next period. The starting inventory and order quantity sum up to the available inventory.

Available inventory= starting inventory + order quantity

Holding costs occur for leftover inventory which is carried over between rounds. For example:

Available inventory: 90 units
Demand: 80 units
Leftover inventory: 90-80=10 units

Holding costs are charged for the resulting leftover 10 units that are stocked in inventory.

If you purchased too few units in a period to fulfill this period's demand, the unfulfilled demand is lost. You cannot reorder within a period or shift demand to later periods. For example:

Available inventory: 30 units
Demand: 80 units
Units Sold: 30 Units

You are trying to maximize your Profits in this experiment. Profit per round is calculated as follows:

*Profit per round = Selling price x units sold - purchasing price x order quantity – holding costs * leftover inventory*

Therefore, profit = revenue - purchasing costs - holding costs.

In this experiment, your costs will be displayed on the decision page.

Here are 2 examples of calculating the profit of a round:

Example 1:
selling price = $20 / unit
purchasing price = $7.5 / unit
inventory holding costs = $5 / unit
starting inventory = 10 units
your order quantity = 50 units
available inventory = 60 units (10 units available inventory + 50 units order quantity)
demand = 20 units

Profit = $20 * 20 units [units sold = Minimum of demand and available inventory]
        - $7.5 * 50 units [order quantity]
        - $5 * 40 units [final inventory= available inventory - units sold]
        = - $175

Example 2:
Prices of example 1 apply here.
starting inventory = 10 units
your order quantity = 50 units
available inventory = 60 units (10 units available inventory + 50 units order quantity)
demand = 100 units

Profit = $20 * 60 units [units sold = Minimum of demand and available inventory]
        - $7.5 * 50 units [order quantity]
        - $5 * 0 units [final inventory= 0]
        = $825

After clicking next below, you will come to the first demand page:

Game Parameters	
Retail	$15.00 / unit / period
Wholesale	$6.00 / unit / period
Holding	$1.00 / unit / period
Demand Distribution	N~(500, 50)

Market demand probability distribution
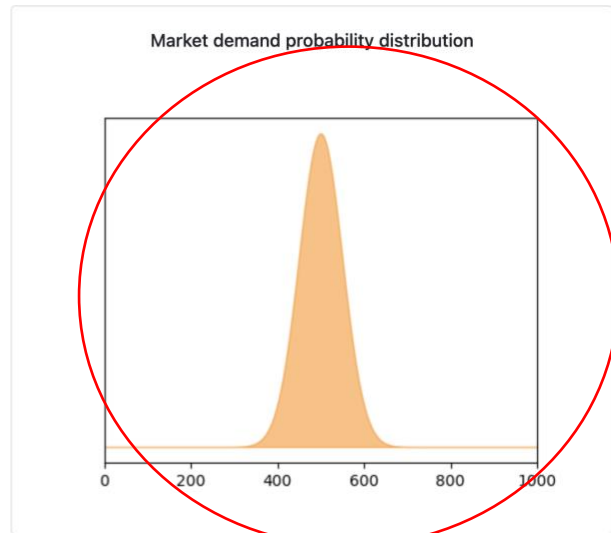
These are the costs associated with the project. You can use these to manually calculate your profits throughout the experiment.

This is the distribution of demand. N~ (500,100) signifies a normal distribution (N) with an average demand of 500 units and standard deviation of 100 units. You can use this data as a guide to determine how much you want to order in each round.

Game History Information

Quantities ordered & demanded in prior periods

Legend:
- Order size
- Demand size

Y-axis: Quantity (0 to 600)
X-axis: Period (1 to 12)

Summary of key metrics of prior periods

Period	1	2	3	4	5	6	7
Starting inventory (before order)	0	0	140	179			
Order quantity	500	550	550				
Demand quantity (realized)	560	410	511				
Profit	$4500	$2710	$4186				
Cumulative profit	$4500	$7210	$11396				
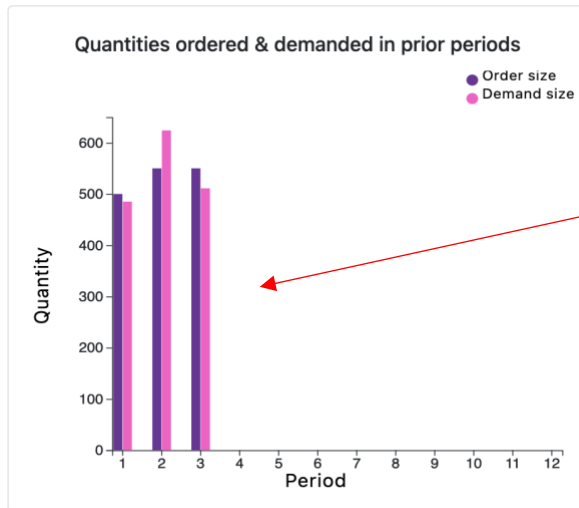
This is the graphical history of what you ordered (in purple) and what the actual demand was (in pink) for all prior periods.

This is the history (in numbers) including the profit realized per round and cumulative profit

At the bottom, there is a place for you to input how much you want to order for the next round.

Decision

Input how much you want to order here

Click "Next" to proceed to the next screen. It will show you the results from this round!

At the end, your earnings will be calculated by multiplying profit from one round by .075%. The round chosen will be randomly selected by the program before you begin and will be used at the end to calculate these earnings. For example, if the chosen single round had a profit of $4,000, this would lead to a bonus pay of 4,000*.00075= $3.

After completion of the game, you will be able to choose a UT Supply Chain Foundation to donate your earnings to.

Please click the "Next" button below to start the game and thank you!