RULEBOOK

Objective:

The objective of this game is to minimize the total transportation cost while delivering the three types of Beercups procured by the Defense Department.

Gameplay:

- You are tasked with transporting a total of **12,500 Beercups** of all three types of efficiency, from using at least 5 origin ports.
- The Ports are spread across the **East Coast, Gulf Coast,** and **West Coast.**
- Each port has **limited Capacity** of Beer cups that can be transported through it.
- Before using a port, you must **activate it** by paying an **Activation Cost per shipment** depending on the mode of transport to be used by you.
  Air Transport: Faster but more expensive.
  Water Transport: Slower but cheaper.
- Each port offers both transport services and can be used multiple times on payment of Activation Cost till the capacity of the port is exhausted.
- Cost of Transportation from **Air** is **$ 13 per unit of distance** and cost of Transportation from **Water** is **$ 10 per unit of distance**.
- The ports also have a **Risk-based costs** attached to it, which will form a part of the total cost. Risk-Based cost is expressed in different ways for all ports.
- Beercups must be delivered to the following destination countries:
  - **France**, **UK**, **Denmark**, **Brazil** and **Spain**
- Each country has a **delivery deadline**, (Maximum Delivery Time in Days)
- Late deliveries will incur a **penalty calculated per batch per day**.
- Deliveries completed early, qualify for **urgency bonuses (Rewards)** provided the beercups reach their destination within the days specified.
- The Rewards and Penalties are already adjusted in the total cost. Rewards reduce the Total Cost and Penalties increase the total cost.
- Beercups must be transported in fixed **batches of 50 Beercups**. Partial batches are **not allowed**.
- Your total costs will include:
  Transportation costs (based on mode of transport chosen)
  Port activation costs (based on mode of transport chosen)
  Risk-based costs (Miscellaneous Cost)
  Packaging Cost

- **In the Data Sheet,** Table 3.1 shows the details of all ports from the East Coast, Gulf Coast and West Coast, with their latitudes and longitudes along with their Activation Cost of using Water and Air, Risk Based cost additions and capacity of each port.
- **In the Data Sheet, Table 3.2** shows the demands of each type of beercups of all the countries.
- **In the Data Sheet, Table 3.3** shows the Packaging cost per unit of beercup for each type of efficiency depending upon the port it is being transported from.
- **In the Data Sheet, Table 3.4** shows the Latitudes, Longitudes and batch size of the destination countries. It also shows the maximum delivery time allowed for the specific countries and penalty in case of delays. The bonuses in case of faster delivery along with the conditional days is also mentioned in this table.
- **In the "The Final Run" sheet**, the Port Column (column Y), has a drop-down to select the origin port of choice. After selection the latitude, longitude and the activation costs for that specific port will appear.
- **In the "The Final Run" sheet**, the Destination Column (column AD), has a drop-down to select the destination countries. After selection, the latitude and longitude will appear.
- **In the "The Final Run" sheet**, participants have to enter the number of Batches.
- **In the "The Final Run" sheet**, the type of Beercup column (column AL), has a drop-down to select the efficiency of beercup to be transported.
- **In the "The Final Run" sheet**, participants have to select mode of transport as "**A**" for Air Transport and "**W**" for Water Transport in the AS column.
- The sheets in the excel file are locked, and all the user Input cells mentioned above are highlighted in peach colour.
- The following table, **Table 3.0,** below the Map, in the "The Final Run" sheet, shows the total demand fulfilled for each type of Beercup.

Country	Demand Fulfillled		
	90%	95%	99%
France	0	0	0
Denmark	0	0	0
Brazil	0	0	0
UK	0	0	0
Spain	0	0	0