**This model is about the competition between two ports, i.e., port 1 and port 2, which offer cargo transportation services through two different models. A customer (with a utility function U) is located at point X with respect to the ports. The ports offer prices (P) in order to maximize their profits. On the other hand, the government, as the market leader, offers discount coefficients to each port, including subsidies, taxes, social justice, and discounts, in order to attract customers to both ports. The government has three goals: maximizing net income, maximizing justice, and minimizing environmental pollution. To solve the basic model, we assumed that the customer is indifferent between the two ports, i.e., the customer is located at a point where it does not matter whether they use port 1 or 2. Therefore, we set the two utility functions of the customer equal to each other, and as a result, the demand value is equal to the location of the customer, and we obtain the value of the parameter p. Then, with respect to the goal of maximizing the port's profit function, we calculate the derivative of the profit function with respect to p and set it equal to zero. By substituting the obtained values in the government functions, the values of the variables are calculated. I used three articles to solve the model, and I am attaching them. I also send the parameter values in a separate Excel file.**

**Solution method:  
1- Setting U1 = U2  
2- If x = x\*, then we calculate D1 = x\* and D2 = 1- x\* from equation 1.  
3- We calculate the value of Pi by taking the derivative of the profit function with respect to Pi: Pi = 0 ∂πi/∂pi.  
4- We replace the value of Pi in row 2, and the values of D1 and D2 are obtained.  
5- A new profit function πi is formed using the newly obtained values.  
6- The other variables are obtained through max and min of the three government functions.**