ASSIGNMENT (12)

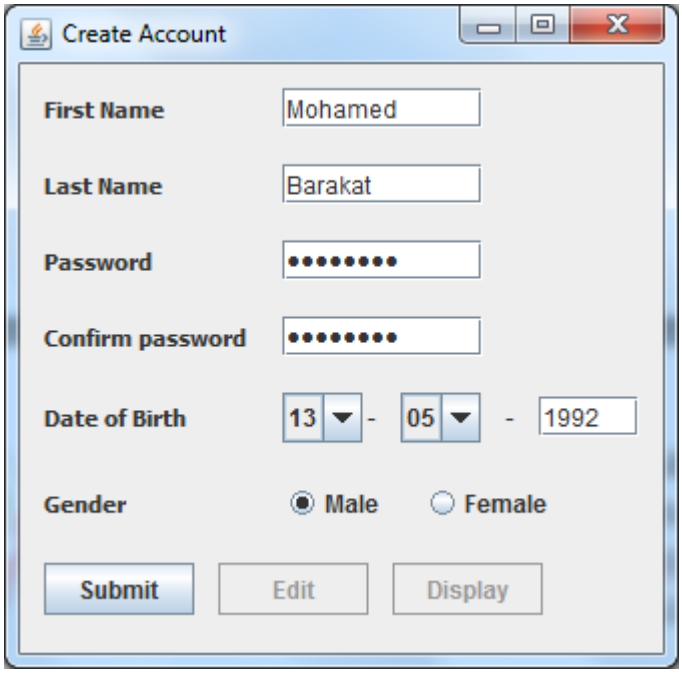
1. Write a program that calculates the price of a ticket according to the age of the passenger. The discounts are given in the following table:

Age	Discount
Age ≤ 12	75%
12 < Age ≤ 18	50%
18 < Age < 25	25%
Age ≥ 25	0%

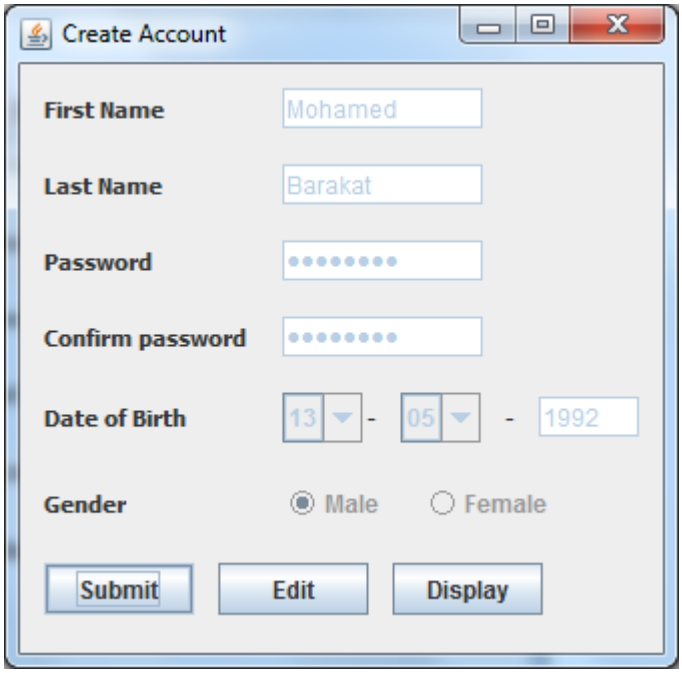
The age of the passenger as well as the ticket price and the currency are inputs. The program calculates and prints the net price after subtracting the discount.

2. Design the shown form that asks the user to enter his information in order to create an account. The user clicks on the "Submit" button after filling in the form. The "Submit" button disables all input fields and enables the two other buttons ("Edit" and "Display").
If the user presses the "Edit" button, all the input fields are enabled in order to edit the data and the "Display" button is disabled (the user must click on the submit button again). When the user presses the "Display" button, the program displays a message that contains all information except the password.

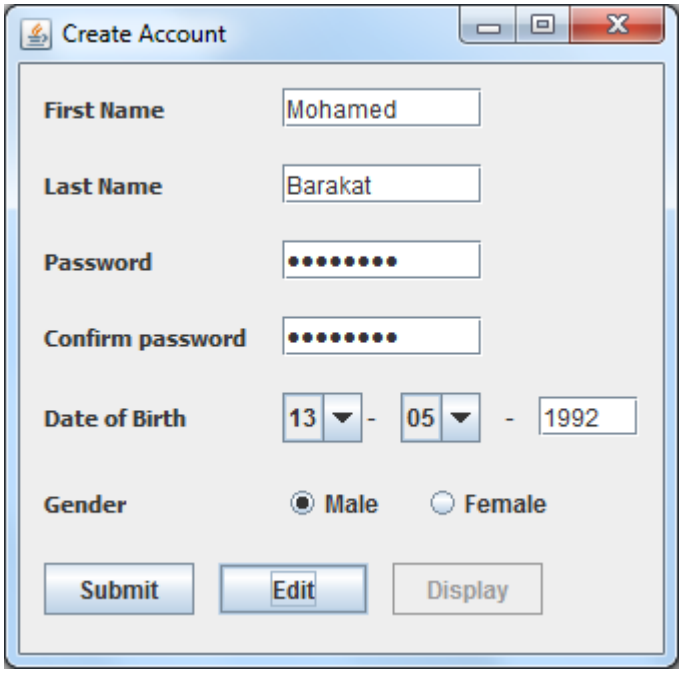
Filled-in Form



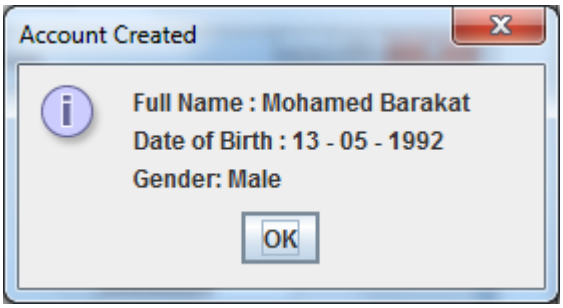
Submit Button



Edit Button

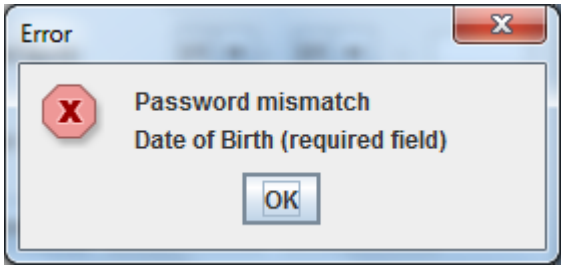


Display Button



3. Modify the "Submit" button in the previous program so that it also validates the data entered by the user. It should enforce the following constraints:
   - "First Name" is not empty
   - "Last Name" is not empty
   - "Password" is not empty
   - "Confirm Password" is not empty
   - "Password" and "Confirm Password" fields are the same.
   - "Year" is not empty.

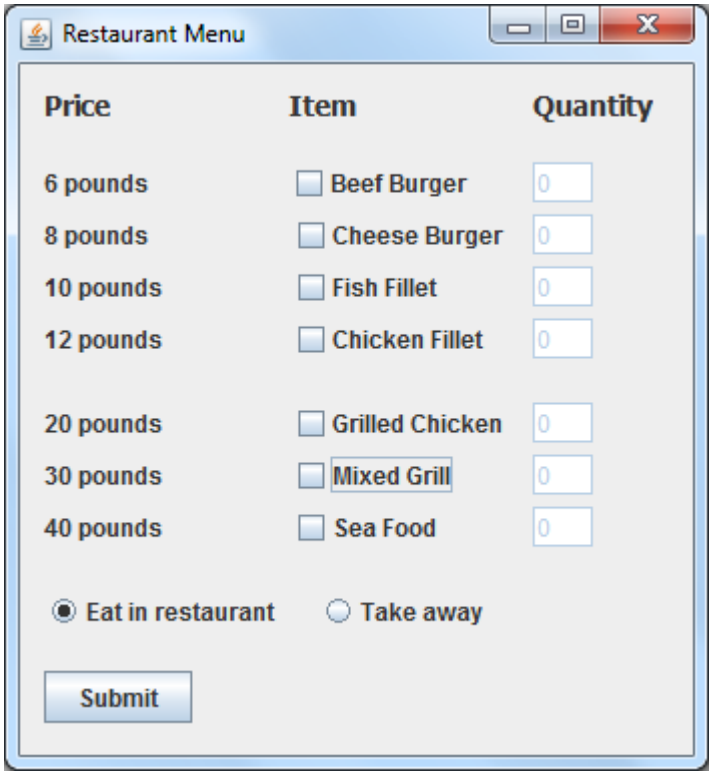
   In case of any invalid entries, the program displays an appropriate message such as the following cases:

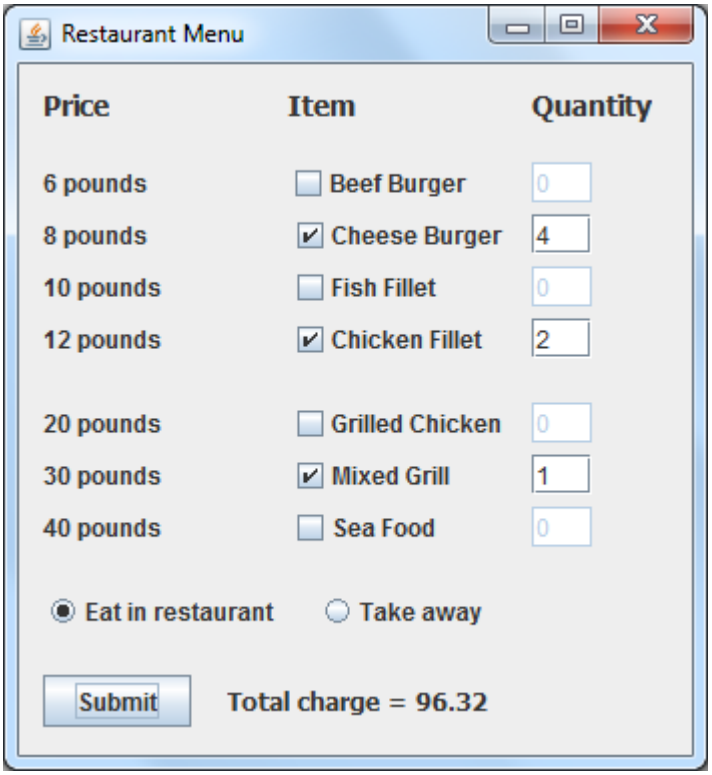


4. Write a Java program that enables a user to make an order in a restaurant. This restaurant presents the following items.

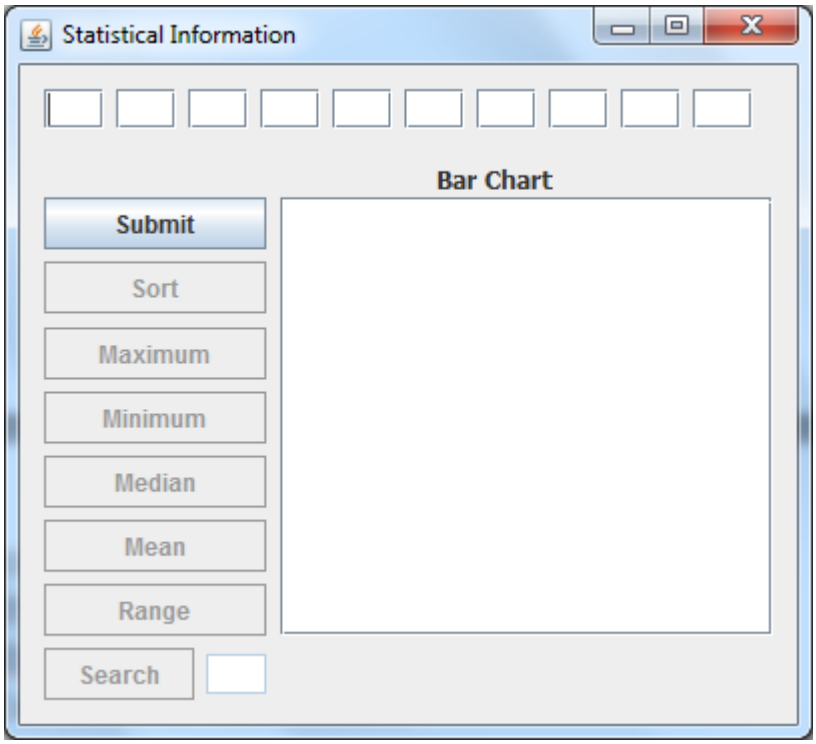
Item	Price
Beef Burger	6 pounds
Cheese Burger	8 pounds
Fish Fillet	10 pounds
Chicken Fillet	12 pounds
Grilled Chicken	20 pounds
Mixed Grill	30 pounds
Sea Food	40 pounds

The guest checks the desired items and enters the quantity needed for each item. If an item is selected, its corresponding quantity field will be enabled and initialized by 1. If the item is unchecked, its quantity field is disabled and initialized by zero. Finally, if the guest will eat in the restaurant, a 12% service charge will be added. The program should calculate and display the total amount of charge.

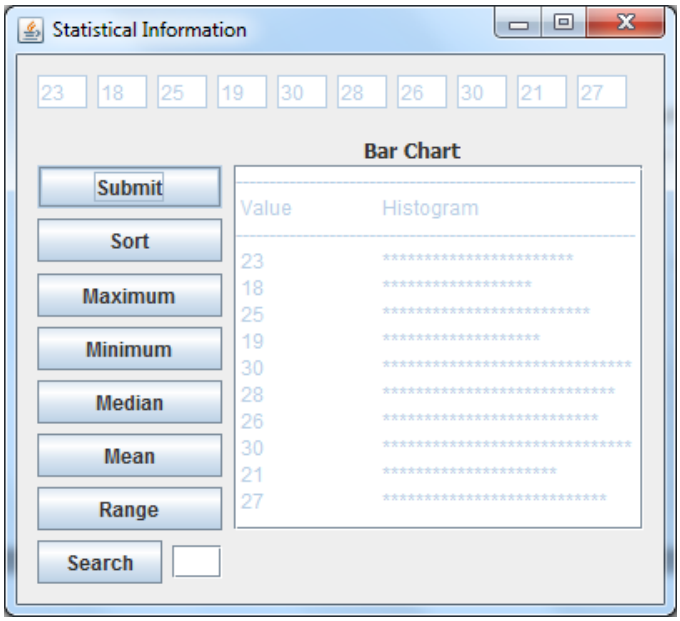




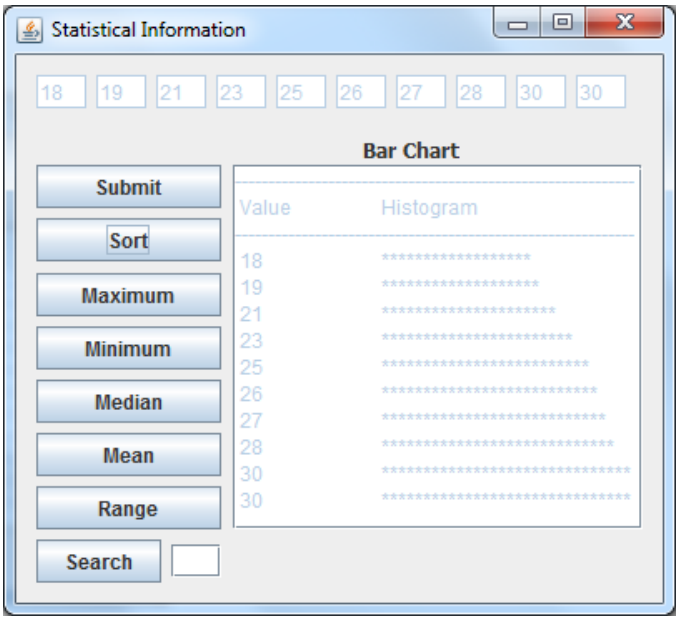
5. Ten students are registered in the programming course in which the instructor enters their midterm marks. When the instructor submits the marks, the program displays a histogram which graphically represents these values. The program also sorts these marks in an ascending order and also computes and prints the following statistics:
   i. The maximum mark.
   ii. The minimum mark.
   iii. The median (the value that falls in the middle of a list of sorted values. If the number of items is even, then the median is the average of the two middle ones).
   iv. The mean (average).
   v. The range (the difference between the highest value and the lowest one).
   vi. The number of occurrences of a search key entered by the user.



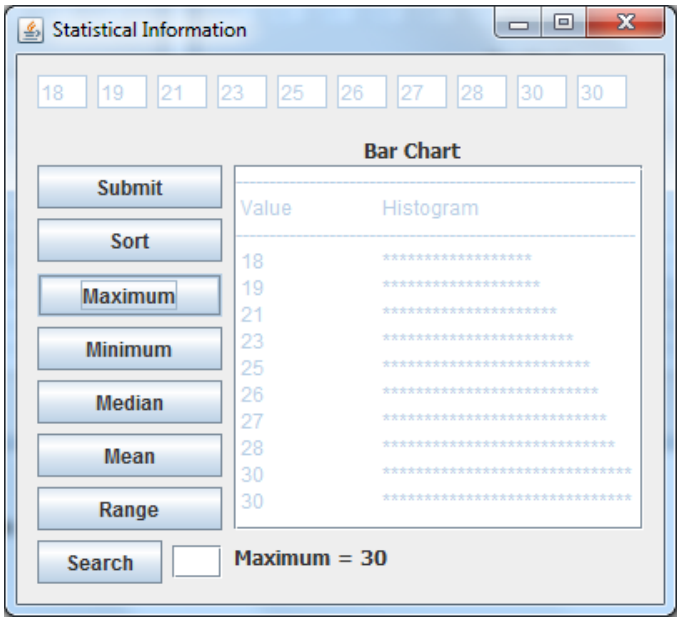
Submit Button



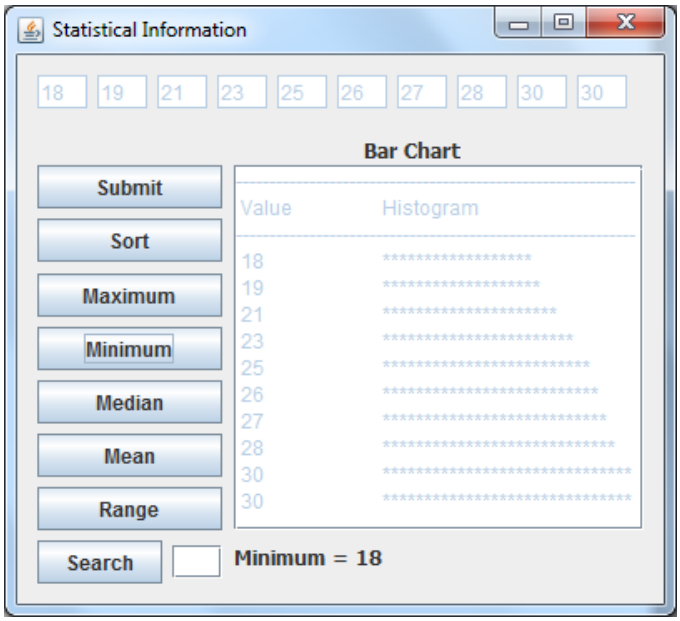
Sort Button



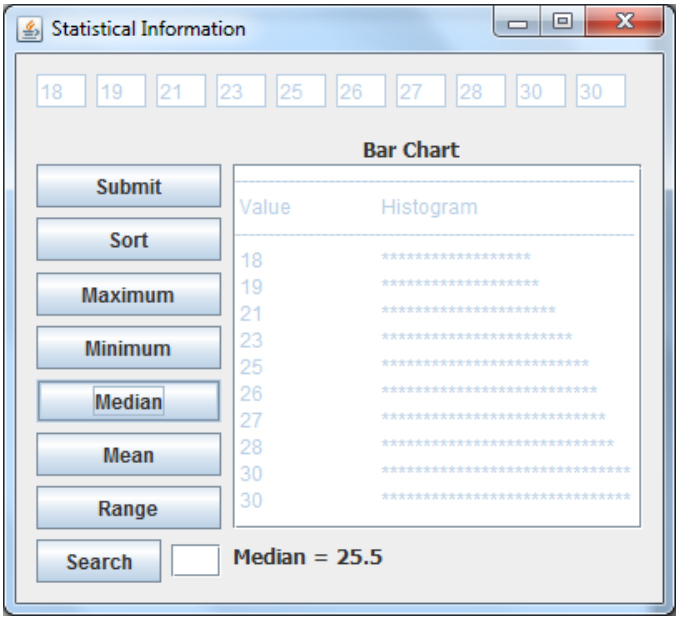
Maximum Button



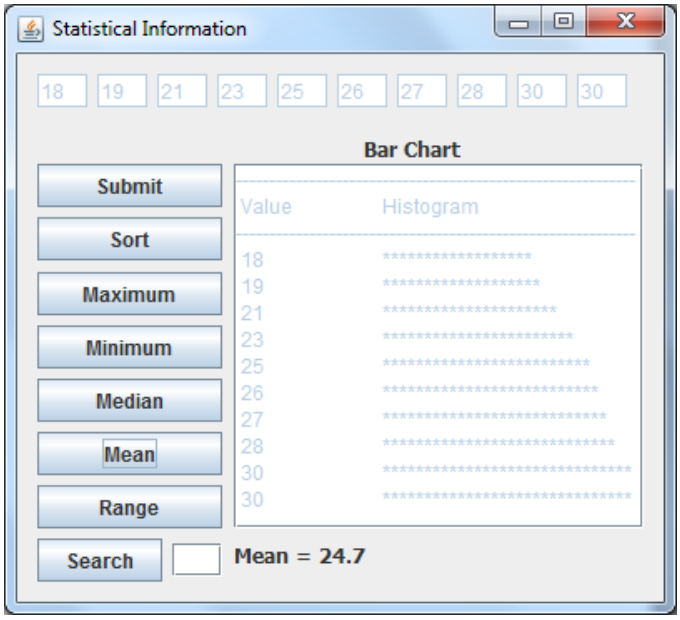
Minimum Button



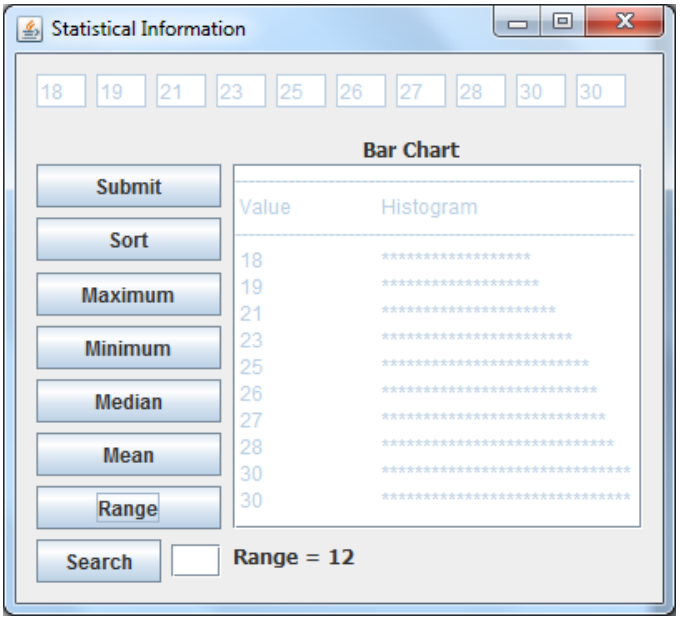
Median Button



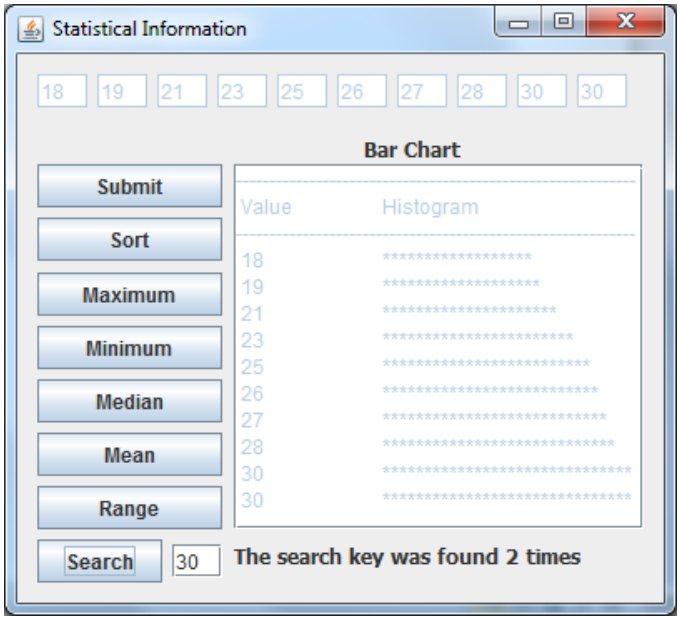
Mean Button



Range Button



Search Button



6. Write a program for a Tic-Tac-Toe game (X-O). The board consists of 9 buttons (3×3 buttons). When Player(1) clicks on a button, the text is set to "X" and the button is disabled to prevent any further clicks on that button. Similarly, when Player(2) clicks on a button, the text is set to "O" and the button is disabled. A player wins if he makes a "3 in-a-row" either vertically, horizontally or diagonally. The program displays a message when one player wins the game or when it's tie.