Computer Graphics concepts used:-

User Defined Functions:-

1. **void Initialize() :**
   Sets the 3X3 board for Tic Tac Toe.

2. **void DrawXO() :**

   This function is used to draw the 'X' and 'O' in the game. It uses the primitive functions such as :

      i.   **GL_LINES.**
      ii.   **GL_LINE_LOOP.**

   This function calls the DrawCircle() that draws the 'O' according to the measurements provided already to the system.

3. **bool CheckWinner() :**
   This function checks if there is any winner.
   We used horizontal, diagonal and vertical checks to check whether there is a winner and if there is, return True. Otherwise return False.

4. **bool CheckIfDraw() :**
   This function gets invoked if CheckWinner() returns False.
   If this function returns true, then it is a Draw.

5. **void AllDisplay() :**
   This function is used to display the Game.
   It calls the DrawLine() function,then draws the grid and the DrawXO() function, drawing 'X' or 'O' with every single mouse click.
   At first it displays the text using DrawString() function for displaying Player1's Turn ie. X and then Player's 2 Turn ie O once the player 1 has placed there move.
   It calls CheckWinner() and CheckIfDraw() functions for displaying the results.
   We call a rectangle function which forms a 2-d rectangle over the grid.
   Then we display the Text "Game Over" and the result ahead by calling the DrawString() function.
   We use the primitive function **GLUT_BITMAP_TIMES_ROMAN_24** to define the text font.
   Then the user is asked if they want to play again. If they press 'y' then the game is replayed, if pressed 'n' the user exits the game.