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```
clc;
clear;
close all;
```

```
% Initialize an empty Tambola ticket (3 rows x 9 columns)
tambolaTicket = zeros(3, 9);
```

## STEP 1: Ensure each column has at least one number

```
for colIndex = 1:9

    % Randomly choose one row for the current column
    randomRow = randperm(3, 1);

    % Mark presence of a number using 1
    tambolaTicket(randomRow, colIndex) = 1;
end
```

## STEP 2: Ensure each row has exactly 5 numbers

```
for rowIndex = 1:3

    % Calculate how many more numbers are needed in this row
    numbersNeeded = 5 - sum(tambolaTicket(rowIndex, :));

    if numbersNeeded > 0

        % Find columns in this row that are still empty
        emptyColumns = find(tambolaTicket(rowIndex, :) == 0);

        % Randomly select required number of empty columns
        selectedColumns = emptyColumns( ...
            randperm(length(emptyColumns), numbersNeeded));

        % Place numbers (mark with 1)
        tambolaTicket(rowIndex, selectedColumns) = 1;
    end
end
```

---

```
end
end
```

## STEP 3: Replace markers (1s) with valid Tambola numbers

```
for colIndex = 1:9

    % Find row positions where numbers exist in this column
    occupiedRows = find(tambolaTicket(:, colIndex) == 1);

    % Generate numbers based on Tambola column ranges
    if colIndex == 1
        columnNumbers = randperm(9, length(occupiedRows));           % 1-9
    elseif colIndex == 9
        columnNumbers = randperm(11, length(occupiedRows)) + 79;    % 80-90
    else
        columnNumbers = randperm(10, length(occupiedRows)) ...      % 10-79
            + (colIndex - 1) * 10;
    end

    % Sort numbers in ascending order (Tambola rule)
    columnNumbers = sort(columnNumbers);

    % Assign sorted numbers from top to bottom
    tambolaTicket(occupiedRows, colIndex) = columnNumbers.';
end
```

## Display the final Tambola ticket

```
disp(tambolaTicket)

     1     0     0     0    43    51    61    74     0
     0     0    25    36    44    59     0     0    82
     4    16     0    37     0     0    62     0    84
```

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