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```
clc;
close all;
clear all;

valid = false;
```

Step 1: Put 5 numbers in each row (just mark positions)

```
while ~valid

ticket = zeros(3,9);
for r = 1:3
    cols = randperm(9,5);
    ticket(r, cols) = 1;
end
```

Step 2: Check each column has at least 1 and at most 3 numbers

```
colCount = sum(ticket == 1, 1);
if any(colCount == 0) || any(colCount > 3)
    continue; % bad layout # try again
end
```

Step 3: Fill numbers column-wise

```
for c = 1:9
rows = find(ticket(:,c) == 1);
howMany = length(rows);
if howMany == 0
continue;
end

% column no. range
if c == 1
pool = 1:9;
elseif c == 9
pool = 80:90;
```

```

    else
        pool = (c-1)*10 : (c*10 - 1);
    end

% for unique numbers
nums = sort(randsample(pool, howMany));

for k = 1:howMany
    ticket(rows(k), c) = nums(k);
end
end

valid = true;    % ticket is good
end

```

Display Ticket

```

fprintf('----- TAMBOLA TICKET -----\\n\\n');

for r = 1:3
    for c = 1:9
        if ticket(r,c) == 0
            fprintf(' [ ] ');
        else
            fprintf(' [%2d] ', ticket(r,c));
        end
    end
    fprintf('\\n');
end

-----
TAMBOLA TICKET -----

[ 3][15][ ][ ][45][51][ ][71][ ]
[ ][16][21][ ][ ][ ][61][73][81]
[ 9][ ][ ][31][ ][56][69][ ][86]

```

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