

Screenshots from class of August 23, 2016

We showed process of starting with outline in comments, then adding and testing code.

NOTE: Blank lines between comments have been eliminated here to get all on one screen.

NOTE: Double-check problem statements - we may not have done exactly what you need to do.

### Possible exam problem

```
examProbDev2.m  x  +
1  % get 100x100 array of random numbers
2
3  % find and display elements with max and
4  % separately min values
5
6  % set initial values of MAX and MIN
7
8  % repeat for rows and cols to find elements
9  % > MAX or < MIN
10
11 % repeat again to collect indexes of elements with max and min
12
13 % display results
14
```

**Bubble sort** (hint: remember Matlab array indexes start at 1, not 0)

```
bubbleSortDev1.m  x  +
1  % bubble sort development
2  % develop in test script now
3  % later put into function as specified in prob statement
4  % get pseudo-code from wikipedia on bubble sort
5
6  A = [8 35 3 1 10 8 2];
7  %   n = length(A)
8  n = length(A);
9  %   repeat
10 while n ~= 0
11     %       newn = 0
12     newn = 0;
13     %       for i = 1 to n-1 inclusive do
14     for i = 1:n-1
15         %           if A[i-1] > A[i] then
16         if A(i-1) > A(i)
17             %               swap(A[i-1], A[i])
18             swap(A[i-1], A[i])
19             %               newn = i
20             newn = i
21         end if
22     end for
23     %       n = newn
24     n = newn
25 until n = 0
26 end
```

## Guessing game

```
gameDev1.m x +
1 - play = true;
2 - % repeat while user wants to play
3 - while play == true
4 -     % start new game
5 -     % count game
6 -     % get random number
7 -     n = randi(10,1)
8 -     fprintf('hint: n = %i \n',n)
9 -     g = inf;
10 -    ng = 0;
11 -    % repeat while user guesses wrong
12 -    while g ~= n
13 -        % get guess
14 -        g = input('enter your guess: ');
15 -        % count guess
16 -        ng = ng+1;
17 -        % decide if correct guess
18 -        if g == n
19 -            disp('YES')
20 -        else
21 -            disp('NO guess again')
22 -        end
23 -    % end repeat while user guesses wrong
24 -    end
25 -    % display results
26 -    % ask user if they want to play again
27 -    play = input('play again? 1 to play, 0 to quit: ');
28 -    % end repeat while user wants to play
29 - end
30 % display results
```