1. Given the following array \( a \),

\[
\begin{bmatrix}
9 & 4 & 7 & 2 \\
1 & 6 & 3 & 5 \\
3 & 10 & 6 & 4
\end{bmatrix}
\]

determine the result of each of the following commands.

\[
\begin{align*}
>> & a(2, 3) \\
>> & a(0, 2) \\
>> & a(5) \\
>> & a' \\
>> & a(:, [2 2 2]) \\
>> & a(1:2:end, 1:2:end) \\
>> & a(end:-1:1, :) \\
>> & \text{max}(a) \\
>> & b = a; b([2 3],[1 4]) = [11 22; 33 44]; b \\
>> & b = a; b(:,2) = []; b \\
>> & \text{log10}([1 10 100 0.1])
\end{align*}
\]

2. What are the results of the following commands?

\[
\begin{align*}
>> & a = [9 4 7 2 8]; \\
>> & a(2) \\
>> & a(1,2) \\
>> & a(2,1) \\
>> & a > 5 \\
>> & \text{find}(a > 5) \\
>> & a * a \\
>> & [a, a] \\
>> & [M, k] = \text{min}(a); M, k \\
>> & a(1:end-1) \\
>> & a([1 1 1], :)
\end{align*}
\]
3. What is the result of each of the following commands?

```matlab
>> a = [1+j, 1+2*j, 3, 4, 5*j];
>> k = find(imag(a)==0);
>> a(k)
```

4. What is the result of the following commands?

```matlab
>> a = [];
>> for k = 5:-1:2
    a = [a, k];
end
>> a
```

5. What is the result of the following commands?

```matlab
>> a = [-2 3];
>> b = [4 2 -1];
>> conv(a,b)
```

6. The following code fragment produces 3 graphs. Sketch each of the three graphs.

```matlab
>> n = 2:0.5:4;
>> x = [3 1 2 0 3];
>> plot(n,x)
>> plot(x)
>> stem(n,x)
```

7. Write a MATLAB function called `over` that has one output and two inputs. The first input is a vector; the second input is a scalar. The output should be the sum of all those elements in the vector that exceed the scalar. For example,

```matlab
>> over([5 1 3 6 9],4)
ans =
    20
```

because the elements in the vector that are greater than 4 are: 5, 6, and 9, so we have 5 + 6 + 9 = 20.

Your program should not use a `for` or `while` loop and it should not use an `if` statement.