Matlab basics:

1. True or False: If A and B are both 3×3 square matrices, then the MATLAB command $A * B$ and $A. * B$ would give the same result.

2. Fill in the blank: If we run the command:

```
sum= 0;
for  k = 1 : 5
        sum = sum * 2 + k ;
        disp(sum)
end
```

What will be displayed?

3. In MATLAB, let x=linspace(0, pi, 100) and $y1 = \sin(x)$, $y2 = \cos(x)$. What would be the correct command to plot $y1$ and $y2$ together in Matlab?
   a. plot(y1, y2)
   b. plot(y2, y1)
   c. plot(x, y1, y2)
   d. plot(x, y1, x, y2)

Encoding basics:

1. True or false: The spike count for a Poisson model neuron has zero variance.

2. Say

```
sample_list = [0 0 3]
```

   is a list of samples of a random variable. What is the sample mean?

3. Say

```
sample_list = [1 1 1]
```

1

is a list of samples of a random variable. What is the sample variance?

4. True or false: Tuning curve analysis is only applied to responses of neurons to sensory inputs, never to motor outputs.