Pop Quiz. This quiz is ungraded, but please put forth your best effort in answering all questions. Please do not use your computer or the internet.

1. Write code to create a 5-dimensional array called X that is size 10 by 20 by 15 by 5 by 30 (all elements should be 0)

2. Write code that summates the elements of X across the 4th dimension. Do not use loops. What is the new size of X?

3. Now that you've taken the sum across the 4th dimension, what command can be used to collapse X into a 4-dimensional array instead of a 5-dimensional array?

4. What command can be used to multiply all elements of a vector? Hint: it's like `sum`

5. What is the command to tell Matlab to exit the script before it gets to the end?

6. What is a command to tell Matlab to pause so the user can see the workspace up to that point in the program?

7. Write the formula for the OLS estimator in Matlab code. Do not use the `inv` command

8. Write Matlab code that lists all the elements of the first dimension of X (from number 3) for given elements of the other dimensions of X

9. Write a function handle called h that lists the function $f(x,y) = x^2 + y^2 + xy + (xy)^{(1/3)}$

10. The following is a line of code that may have some errors in execution. Can you spot the errors?

```
2X = y(x=2)';
```