

The Matrix problems: Instructions

In this assignment, you will be exploring the world of matrices. You'll also be implementing the multiple definitions of matrix-vector multiplication and matrix-matrix multiplication in Python (not for future use, just to reinforce these definitions).

This assignment relies on, and imports, `mat.py` and `vec.py`. You may not be able to complete some of these problems if your implementations for these classes are incomplete. When using `Mat` and `Vec`, please remember to use operators such as `[]` and `*` and not procedures such as `getitem`.

Q: What do mathematicians sleep on? A: Matrices.

To complete this assignment, please carefully follow the following instructions:

1. Download the detailed instructions for this assignment, [The_Matrix_problems.pdf](#)
2. Download the stencil, [The_Matrix_problems.py](#), for this assignment, and move it into your `matrix` folder.
3. You do not need to submit anything marked *ungraded*.
4. Support code and data resources can be found at the [Coding the Matrix Resources page](#). Here, you may find [matutil.py](#), [solver.py](#), and [UN_voting_data.txt](#).
5. `matutil.py` contains several useful procedures. If you would like to use `matutil.py`, please make sure you import it in your stencil. For example, if you would like to use `coldict2mat`, you may add to your stencil:

```
from matutil import coldict2mat
```

6. To help you with *Lights Out*, you may want to try and solve a few instances of the problem. Here are two: [Example 1](#), [Example 2](#).
7. For each problem/task,
 1. Test out your solution in the Python REPL;
 2. Copy your solution into the stencil file `The_Matrix_problems.py`;
 3. Submit your solution by opening a console window, navigating using `cd` to the `matrix` folder, and entering the command `python3 coursera_submit The_Matrix_problems.py`. The script will ask for your username and password. They are located [on the assignments page](#).

You can use the submit command to submit solutions for as many tasks as you like at one time.

Have fun!

