Exercise 9. *Pratice some of these methods for accessing matrix elements with the following exercises:*

- *Create a matrix of size $N \times N$ that has ones in the border and zeros inside. For example if $N = 3$ the matrix can be created with*

```
>> A=ones(3,3); A(2,2)=0
A =
     1     1     1
     1     0     1
     1     1     1
```

  Make this construction depend on N and work for any positive integer $N \geq 2$

- *Create a 5x5 matrix whose rows are (1:5)*
- *Extract the diagonal of a given matrix without using* `diag` *(you may use* `size`*)*
- *Flip a given matrix horizonally. Vertically? Do not use* `fliplr` *or* `flipud`
- *Extract the* anti-*diagonal of a given matrix*
- *Extract the* anti-*diagonal, without first flipping it (Hint: use single index access)*

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