Activities

(1) Create a 5 by 10 matrix (5 rows, 10 columns) with entries 1,…,50.

The result should be
```
array([[ 1,  2,  3,  4,  5,  6,  7,  8,  9, 10],
       [11, 12, 13, 14, 15, 16, 17, 18, 19, 20],
       [21, 22, 23, 24, 25, 26, 27, 28, 29, 30],
       [31, 32, 33, 34, 35, 36, 37, 38, 39, 40],
       [41, 42, 43, 44, 45, 46, 47, 48, 49, 50]])
```

(2) Take the same matrix and change the matrix coefficient 22 to 52.

(3) Make a slice of the same matrix of the second and third row and the first, second, and third column. Then change the upper left element and the lower right element in the slice to 100. What has happened to the original matrix?

(4) Create a vector of size 100 that is normally distributed with mean 10 and standard deviation 1. Then select all values that are within two standard deviations of the mean