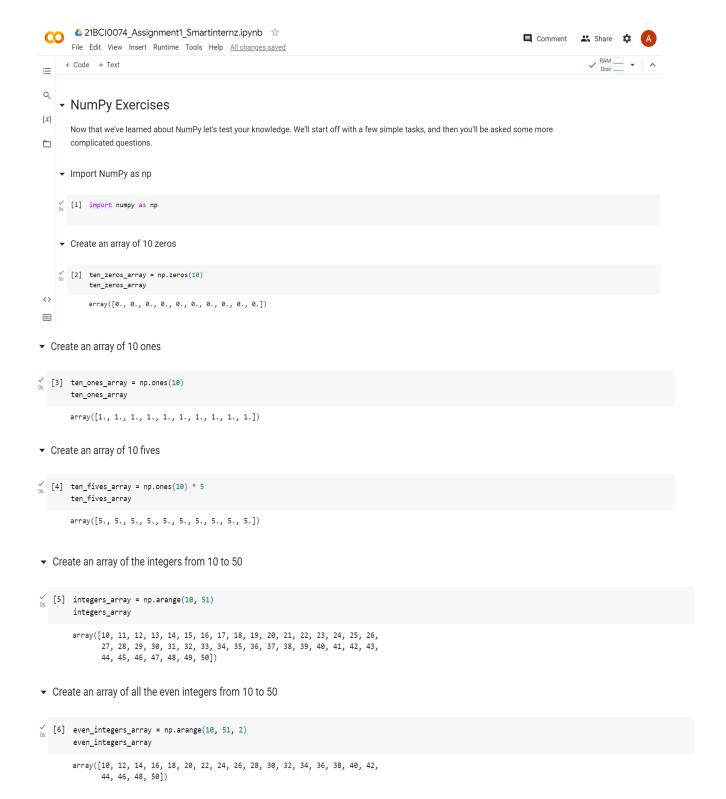


Assignment -1

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▼ Create a 3x3 matrix with values ranging from 0 to 8

▼ Create a 3x3 identity matrix

▼ Use NumPy to generate a random number between 0 and 1

```
random_number = np.random.rand()
random_number

0.7888337245949028
```

▼ Use NumPy to generate an array of 25 random numbers sampled from a standard normal distribution

▼ Create the following matrix:

▼ Create an array of 20 linearly spaced points between 0 and 1:

▼ Numpy Indexing and Selection

Now you will be given a few matrices, and be asked to replicate the resulting matrix outputs:

```
    [13] mat = np.arange(1,26).reshape(5,5)

        mat
        _{0s}^{\checkmark} [14] submatrix = mat[2:, 1:]
        submatrix
        array([[12, 13, 14, 15],
               [17, 18, 19, 20],
               [22, 23, 24, 25]])
\( \frac{1}{0s} \] [15] number_20 = mat[3, 4]
        number_20
        20

√
  [16] submatrix = mat[:3, 1:2]

        submatrix
        array([[ 2],
               [7],
               [12]])
/ [17] result_array_1 = mat[4, :]
     result_array_1
       array([21, 22, 23, 24, 25])

// (18] result_array_2 = mat[3:5, :]
        result_array_2
        array([[16, 17, 18, 19, 20], [21, 22, 23, 24, 25]])
▼ Now do the following
```

▼ Get the sum of all the values in mat

```
os [19] sum_of_values = np.sum(mat)
sum_of_values
```

▼ Get the standard deviation of the values in mat

▼ Get the sum of all the columns in mat