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NumPy Exercises

Now that we've learned about NumPy let's test your knowledge. We'll start off with a few simple tasks, and then you'll be asked some more complicated questions.

Import NumPy as np

In [3]:

Create an array of 10 zeros

In [ ]:

Create an array of 10 ones

In [ ]:

Create an array of 10 fives

In [ ]:

Create an array of the integers from 10 to 50

In [ ]:

Create an array of all the even integers from 10 to 50

In [ ]:

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

In [ ]:

Create a 3x3 identity matrix

In [ ]:

Use NumPy to generate a random number between 0 and 1

In [ ]:

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

In [ ]:

Create the following matrix:

In [ ]:

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

In [ ]:

Numpy Indexing and Selection

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

In [4]:
```
mat = np.arange(1,26).reshape(5,5)
mat
```

Out[4]:
```
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]])
```

In [ ]:
```
# WRITE CODE HERE THAT REPRODUCES THE OUTPUT OF THE CELL BELOW
# BE CAREFUL NOT TO RUN THE CELL BELOW, OTHERWISE YOU WON'T
# BE ABLE TO SEE THE OUTPUT ANY MORE
```

In [6]:

Out[6]:
```
array([[12, 13, 14, 15],
       [17, 18, 19, 20],
       [22, 23, 24, 25]])
```

In [ ]:
```
# WRITE CODE HERE THAT REPRODUCES THE OUTPUT OF THE CELL BELOW
# BE CAREFUL NOT TO RUN THE CELL BELOW, OTHERWISE YOU WON'T
# BE ABLE TO SEE THE OUTPUT ANY MORE
```

In [7]:
```

```

Out[7]:
```
20
```

In [ ]:
```
# WRITE CODE HERE THAT REPRODUCES THE OUTPUT OF THE CELL BELOW
# BE CAREFUL NOT TO RUN THE CELL BELOW, OTHERWISE YOU WON'T
# BE ABLE TO SEE THE OUTPUT ANY MORE
```

In [8]:
```

```

Out[8]:
```
array([[ 2],
       [ 7],
       [12],
       [17],
       [22]])
```

In [ ]:
```
# WRITE CODE HERE THAT REPRODUCES THE OUTPUT OF THE CELL BELOW
# BE CAREFUL NOT TO RUN THE CELL BELOW, OTHERWISE YOU WON'T
# BE ABLE TO SEE THE OUTPUT ANY MORE
```

In [9]:
```

```

Out[9]:
```
array([21, 22, 23, 24, 25])
```

In [ ]:
```
# WRITE CODE HERE THAT REPRODUCES THE OUTPUT OF THE CELL BELOW
# BE CAREFUL NOT TO RUN THE CELL BELOW, OTHERWISE YOU WON'T
# BE ABLE TO SEE THE OUTPUT ANY MORE
```

In [10]:
```

```

Out[10]:
```
array([[16, 17, 18, 19, 20],
       [21, 22, 23, 24, 25]])
```