```python
In [1]: import numpy as np
        import matplotlib.pyplot as plt
```

```python
In [2]: a = [[11, 12, 13], [21, 22, 23], [31, 32, 33]]
        a
```

Out[2]: [[11, 12, 13], [21, 22, 23], [31, 32, 33]]

```python
In [3]: A = np.array(a)
        A
```

Out[3]: array([[11, 12, 13],
               [21, 22, 23],
               [31, 32, 33]])

```python
In [4]: A[1, 2]
```

Out[4]: 23

```python
In [5]: A[1][2]
```

Out[5]: 23

```python
In [6]: A[0][0:2]
```

Out[6]: array([11, 12])

```python
In [7]: A[0:2, 2]
```

Out[7]: array([13, 23])

```python
In [8]: X = np.array([[1, 0], [0, 1]])
        X
```

```
Out[8]: array([[1, 0],
               [0, 1]])
```

```
In [9]: Y = np.array([[2, 1], [1, 2]])
        Y
```

```
Out[9]: array([[2, 1],
               [1, 2]])
```

```
In [10]: Z = X + Y
         Z
```

```
Out[10]: array([[3, 1],
                [1, 3]])
```

```
In [11]: Y = np.array([[2, 1], [1, 2]])
         Y
```

```
Out[11]: array([[2, 1],
                [1, 2]])
```

```
In [12]: Z = 2 * Y
         Z
```

```
Out[12]: array([[4, 2],
                [2, 4]])
```

```
In [13]: A = np.array([[0, 1, 1], [1, 0, 1]])
         A
```

```
Out[13]: array([[0, 1, 1],
                [1, 0, 1]])
```

```
In [14]: B = np.array([[1, 1], [1, 1], [-1, 1]])
         B
```

```
Out[14]: array([[ 1,  1],
                [ 1,  1],
```

```
             [-1,  1]])
```

In [15]:
```
Z = np.dot(A,B)
Z
```

Out[15]:
```
array([[0, 2],
       [0, 2]])
```

In [ ]: