In [1]:
```
import numpy as np
```

In [5]:
```
#Q1.
sales=np.array([[1200,1400,800,1100],[1300,1500,1600,1000],[1100,1200,1000,1050]])
sales
```

Out[5]:
```
array([[1200, 1400,  800, 1100],
       [1300, 1500, 1600, 1000],
       [1100, 1200, 1000, 1050]])
```

In [9]:
```
#Q2
cities=np.array(['Dallas','Houston','Austin'])
Quarters=np.array(['Q1','Q2','Q3','Q4'])
cities,Quarters
```

Out[9]:
```
(array(['Dallas', 'Houston', 'Austin'], dtype='<U7'),
 array(['Q1', 'Q2', 'Q3', 'Q4'], dtype='<U2'))
```

In [21]:
```
#Q3
city = input("What is the city?")
cities==city
```

```
What is the city?Houston
```

Out[21]:
```
array([False,  True, False])
```

In [40]:
```
#Q4
city = input("What is the city?")
sales[cities==city]
```

```
What is the city?Houston
```

Out[40]:
```
array([[1300, 1500, 1600, 1000]])
```

In [28]:
```
#Q5
city = input("What is the city?")
sales[cities==city].sum(),sales[cities==city].mean()
```

```
What is the city?Houston
```

Out[28]:
```
(5400, 1350.0)
```

In [35]:
```
#Q6
Quarter = input("Which Quarter?")
```

```
Which Quarter?Q3
```

In [36]:
```
#Q7
Quarter = input("Which Quarter?")
sales[:,Quarters==Quarter]
```

Out[36]:
```
array([[ 800],
       [1600],
       [1000]])
```

In [37]:
```
#Q8
Quarter = input("Which Quarter?")
np.amax(sales[:,Quarters==Quarter])
```

```
Which Quarter?Q2
```

Out[37]:
```
1500
```

In [43]:
```
#Q9
np.amax(sales,axis=1)
```

Out[43]:
```
array([1400, 1600, 1200])
```

In [44]:
```
#Q10
np.amax(sales,axis=0)
```

Out[44]:
```
array([1300, 1500, 1600, 1100])
```

In [45]:
```
#Q11
sales.T
```

Out[45]:
```
array([[1200, 1300, 1100],
       [1400, 1500, 1200],
       [ 800, 1600, 1000],
       [1100, 1000, 1050]])
```

In [ ]:
```

```