In [ ]:
```
Understanding Shallow and deep copying
```

In [ ]:
```
1. Shallow copying:
    view ---> this method is used
```

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

In [2]:
```
students = np.array (['Joe', 'Ram', 'Rahul', 'Bunty', 'Tokyo'])
students
```

Out[2]:
```
array(['Joe', 'Ram', 'Rahul', 'Bunty', 'Tokyo'], dtype='<U5')
```

In [3]:
```
dept_1 = students.view()
```

In [4]:
```
print(dept_1)
```

```
['Joe' 'Ram' 'Rahul' 'Bunty' 'Tokyo']
```

In [5]:
```
dept_1 is students
```

Out[5]:
```
False
```

In [7]:
```
dept_1.base is students
```

Out[7]:
```
True
```

In [ ]:
```

```

In [8]:
```
dept_1[0] = 'Rahim'
```

In [9]:
```
print(dept_1)
```

```
['Rahim' 'Ram' 'Rahul' 'Bunty' 'Tokyo']
```

In [ ]:
```
2. Deep Copying:
    copy ---> this method is used
```

In [11]:
```
students = np.array (['Joe', 'Ram', 'Rahul', 'Bunty', 'Tokyo'])
students
```

Out[11]:
```
array(['Joe', 'Ram', 'Rahul', 'Bunty', 'Tokyo'], dtype='<U5')
```

In [12]:
```
dept = students.copy()
```

In [13]:
```
dept is students
```

Out[13]:
```
False
```

In [14]:
```
dept.base is students
```

Out[14]:
```
False
```

In [15]:
```
dept[1] = 'Raju'
```

In [16]:
```
print(dept)
```

```
['Joe' 'Raju' 'Rahul' 'Bunty' 'Tokyo']
```

In [17]:
```
print(dept)
```

```
['Joe' 'Raju' 'Rahul' 'Bunty' 'Tokyo']
```

In [18]:
```
print(dept)
```

```
['Joe' 'Raju' 'Rahul' 'Bunty' 'Tokyo']
```

In [19]:
```
print(dept_1)
```

```
['Rahim' 'Ram' 'Rahul' 'Bunty' 'Tokyo']
```

In [20]:
```
print(dept)
```

```
['Joe' 'Raju' 'Rahul' 'Bunty' 'Tokyo']
```

In [ ]:
```

```