

e-9

March 11, 2025

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

```
[6]: # Structured arrays are ndarrays whose datatype is a composition of simpler  
# datatypes organized as a sequence of named fields.
```

```
name_array = np.array(['shayan', 'sara', 'fati'])  
age_array = np.array([26, 20, 23])
```

```
structured_array = np.zeros(3, dtype={  
    'names': ('names', 'ages'),  
    'formats': ('U10', 'i4')  
})
```

```
structured_array['names'] = name_array  
structured_array['ages'] = age_array
```

```
[7]: structured_array[0]
```

```
[7]: np.void(('shayan', 26), dtype=[('names', '<U10'), ('ages', '<i4')])
```

```
[8]: structured_array[structured_array['ages'] > 21]
```

```
[8]: array([('shayan', 26), ('fati', 23)],  
        dtype=[('names', '<U10'), ('ages', '<i4')])
```