

 *DAY 15 TASK.py - C:/Users/krsb/OneDrive/Desktop/internship/DAY 15 TASK.py (3.10.0)*

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#Task 1

```
import numpy as np
```

```
salaries = [25000, 30000, 28000, 32000, 29000, 31000, 27000, 35000, 26000]
```

```
arr1d = np.array(salaries)
```

```
arr2d = arr1d.reshape(3, 3)
```

```
print(arr2d.shape)
```

```
print(arr2d.dtype)
```

```
print(arr2d[1, 0])
```

```
print(arr1d[2:7])
```

```
print(arr1d[-3:])
```

```
print(np.sort(arr1d))
```

```
print(np.sort(arr1d)[::-1])
```

```
reshaped_1d = arr2d.reshape(-1)
```

```
bonus = [2000, 3000, 2500, 4000, 1500, 3500, 2800, 5000, 1800]
```

```
joined = np.concatenate((reshaped_1d, bonus))
```

```
print(joined)
```

#Task 2

```
import numpy as np
```

```
stock = [45, 60, 30, 80, 55, 90, 20, 70]
```

```
zeros = np.zeros(8)
```

```
ones = np.ones(8)
```

```
range_arr = np.arange(10, 50, 5)
```

```
print(zeros)
```

```
print(ones)
```

```
print(range_arr)
```

```
stock_arr = np.array(stock).reshape(4, 2)
```

```
print(stock_arr[2, 0])
```

```
print(stock_arr[0])
```

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```
print(stock_arr[2, 0])
print(stock_arr[0])

print(stock_arr.flatten()[1:6])
print(stock_arr.flatten()[-4:-1])

print(np.where(stock_arr == 90))
print(stock_arr[stock_arr > 50])

print(np.split(stock_arr.flatten(), 4))
print(np.hsplit(stock_arr, 2))
print(np.vsplit(stock_arr, 4))

#Task 3

import numpy as np

temperature = [30, 32, 31, 29, 35, 36, 33, 34, 28, 27, 26, 25]

temp_arr = np.array(temperature)
temp_3d = temp_arr.reshape(2, 2, 3)

print(temp_3d[0, 1, 2])

print(temp_arr.dtype)
temp_float = temp_arr.astype(float)
print(temp_float.dtype)

print(temp_arr[3:9])
print(temp_arr[:, 2])

print(np.sort(temp_arr))
print(np.sort(temp_arr)[:, :-1])

reshaped = temp_arr.reshape(4, 3)
print(reshaped)

#Task 4

import numpy as np

roll_numbers = np.arange(101, 111)

zeros = np.zeros(10)
ones = np.ones(10)

print(roll_numbers)
```

```

print(roll_numbers)
print(zeros)
print(ones)

roll_2d = roll_numbers.reshape(5, 2)
print(roll_2d)

extra_roll = [111, 112, 113, 114, 115]
joined = np.concatenate((roll_numbers, extra_roll))
print(joined)

print(np.where(joined == 105))
print(joined[joined > 107])

print(np.split(joined, 3))

print(roll_numbers.shape)
reshaped = roll_numbers.reshape(2, 5)
print(reshaped.shape)

```

IDLE Shell 3.10.0

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Python 3.10.0 (tags/v3.10.0:b494f59, Oct 4 2021, 19:00:18) [MSC v.1929 64 bit (AMD64)]
Type "help", "copyright", "credits" or "license()" for more information.

```

>>>
===== RESTART: C:/Users/krsb/OneDrive/Desktop/internship/DAY 15 TASK.py =====
(3, 3)
int64
32000
[28000 32000 29000 31000 27000]
[27000 35000 26000]
[25000 26000 27000 28000 29000 30000 31000 32000 35000]
[35000 32000 31000 30000 29000 28000 27000 26000 25000]
[25000 30000 28000 32000 29000 31000 27000 35000 26000 2000 3000 2500
 4000 1500 3500 2800 5000 1800]
>>>
===== RESTART: C:/Users/krsb/OneDrive/Desktop/internship/DAY 15 TASK.py =====
[0. 0. 0. 0. 0. 0. 0. 0.]
[1. 1. 1. 1. 1. 1. 1. 1.]
[10 15 20 25 30 35 40 45]
55
[45 60]
[60 30 80 55 90]
[55 90 20]
(array([2]), array([1]))
[60 80 55 90 70]
[array([45, 60]), array([30, 80]), array([55, 90]), array([20, 70])]
[array([[45],
       [30],
       [55],
       [20]]), array([[60],
       [80],
       [90],
       [70]])]
[array([[45, 60]], array([[30, 80]], array([[55, 90]], array([[20, 70]])]
>>>
===== RESTART: C:/Users/krsb/OneDrive/Desktop/internship/DAY 15 TASK.py =====
36
int64
float64
[29 35 36 33 34 28]
[30 31 35 33 28 26]
[25 26 27 28 29 30 31 32 33 34 35 36]
[36 35 34 33 32 31 30 29 28 27 26 25]
[[30 32 31]
 [29 35 36]
 [33 34 28]
 [27 26 25]]
>>>

```

```
>>>| ===== RESTART: C:/Users/krsb/OneDrive/Desktop/internship/DAY 15 TASK.py =====
[101 102 103 104 105 106 107 108 109 110]
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
[1. 1. 1. 1. 1. 1. 1. 1. 1. 1.]
[[101 102]
 [103 104]
 [105 106]
 [107 108]
 [109 110]]
[101 102 103 104 105 106 107 108 109 110 111 112 113 114 115]
(array([4]),)
[108 109 110 111 112 113 114 115]
[array([101, 102, 103, 104, 105]), array([106, 107, 108, 109, 110]), array([111, 112, 113, 114, 115])]
(10,)
(2, 5)
>>>|
```