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Roll no.: 209

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+*In[1]:*+ [source, ipython3]

```
import numpy as np a=np.loadtxt('testmarks1.csv',delimiter=',',skiprows=1,dtype=float) print(a)
```

+*Out[1]:*+

```
[[801.  43.05  27.79  28.7   27.79]
[802.  43.47  28.52  28.98  27.89]
[803.  42.24  28.16  28.16  25.63]
[804.  39.24  26.16  26.16  26.16]
[805.  40.9   26.03  27.27  25.65]
[806.  39.47  26.31  26.31  25.21]
[807.  41.68  25.63  27.79  25.46]
[808.  42.19  27.61  28.13  26.21]
[809.  44.75  28.35  29.83  28.21]
[810.  46.95  28.88  31.3   28.53]]
```

+*In[6]:*+ [source, ipython3]

```
import numpy as np b=np.loadtxt('testmarks2.csv',delimiter=',',skiprows=1,dtype=float) print(b)
```

+*Out[6]:*+

[[801. 28.48 34.18 30.56 22.23]

[802. 28.1 33.72 30.68 22.82]

[803. 26.16 31.39 28.2 22.53]

[804. 26.16 31.39 28.78 20.93]

[805. 26.1 31.32 28.22 20.82]

[806. 25.45 30.54 27.73 21.05]

[807. 26.16 31.39 28.01 20.51]

[808. 27.44 32.93 28.83 22.08]

[809. 28.63 34.35 31.03 22.68]

[810. 30.35 36.42 31.38 23.1]]

+*In[7]:*+ [source, ipython3]

c=np.add(a,b) print(c)

+*Out[7]:*+

[[1602. 71.53 61.97 59.26 50.02]

[1604. 71.57 62.24 59.66 50.71]

[1606. 68.4 59.55 56.36 48.16]

[1608. 65.4 57.55 54.94 47.09]

[1610. 67. 57.35 55.49 46.47]

[1612. 64.92 56.85 54.04 46.26]

[1614. 67.84 57.02 55.8 45.97]

[1616. 69.63 60.54 56.96 48.29]

[1618. 73.38 62.7 60.86 50.89]

[1620. 77.3 65.3 62.68 51.63]]

+*In[13]:*+

[source, ipython3]

c=np.subtract(a,b) print(c)

+*Out[13]:*+

[[0. 14.57 -6.39 -1.86 5.56]

[0. 15.37 -5.2 -1.7 5.07]

[0. 16.08 -3.23 -0.04 3.1]

[0. 13.08 -5.23 -2.62 5.23]

[0. 14.8 -5.29 -0.95 4.83]

[0. 14.02 -4.23 -1.42 4.16]

[0. 15.52 -5.76 -0.22 4.95]

[0. 14.75 -5.32 -0.7 4.13]

[0. 16.12 -6. -1.2 5.53]

[0. 16.6 -7.54 -0.08 5.43]]

+*In[14]:*+

[source, ipython3]

c=np.multiply(a,b)

print(c)

+*Out[14]:*+

[[6.4160100e+05 1.2260640e+03 9.4986220e+02 8.7707200e+02 6.1777170e+02] [6.4320400e+05 1.2215070e+03 9.6169440e+02 8.8910640e+02 6.3644980e+02] [6.4480900e+05 1.1049984e+03 8.8394240e+02 7.9411200e+02 5.7744390e+02] [6.4641600e+05 1.0265184e+03 8.2116240e+02 7.5288480e+02 5.4752880e+02]

[6.4802500e+05 1.0674900e+03 8.1525960e+02 7.6955940e+02 5.3403300e+02] [6.4963600e+05 1.0045115e+03 8.0350740e+02 7.2957630e+02 5.3067050e+02] [6.5124900e+05 1.0903488e+03 8.0452570e+02 7.7839790e+02 5.2218460e+02] [6.5286400e+05 1.1576936e+03 9.0919730e+02 8.1098790e+02 5.7871680e+02] [6.5448100e+05 1.2811925e+03 9.7382250e+02 9.2562490e+02 6.3980280e+02] [6.5610000e+05 1.4249325e+03 1.0518096e+03 9.8219400e+02 6.5904300e+02]]

+*In[15]:*+

[source, ipython3]

c=np.divide(a,b)

print(c)

+*Out[15]:*+

[[1. 1.51158708 0.81304857 0.93913613 1.25011246]

[1. 1.54697509 0.84578885 0.94458931 1.22217353]

[1. 1.6146789 0.89710099 0.99858156 1.13759432]

[1. 1.5 0.83338643 0.90896456 1.24988055]

[1. 1.56704981 0.83109834 0.96633593 1.23198847]

[1. 1.55088409 0.86149312 0.94879192 1.1976247]

[1. 1.59327217 0.81650207 0.99214566 1.24134569]

[1. 1.53753644 0.83844519 0.97571974 1.1870471]

[1. 1.56304576 0.82532751 0.96132775 1.24382716]

[1. 1.54695222 0.7929709 0.99745061 1.23506494]]

+*In[19]:*+

[source, ipython3]

c=np.transpose(a) print(c)

+*Out[19]:*+

[[801. 802. 803. 804. 805. 806. 807. 808. 809. 810.]

[43.05 43.47 42.24 39.24 40.9 39.47 41.68 42.19 44.75 46.95]

[27.79 28.52 28.16 26.16 26.03 26.31 25.63 27.61 28.35 28.88]

[28.7 28.98 28.16 26.16 27.27 26.31 27.79 28.13 29.83 31.3]

[27.79 27.89 25.63 26.16 25.65 25.21 25.46 26.21 28.21 28.53]]

+*In[26]:*+

[source, ipython3] c=np.mean(a,0)

print(c)

+*Out[26]:*+

[805.5 42.394 27.344 28.263 26.674]

+*In[27]:*+

[source, ipython3]

c=np.max(a,0) print(c)

+*Out[27]:*+

[810. 46.95 28.88 31.3 28.53]

+*In[28]:*+

[source, ipython3]

```
c=np.min(a,0)
print(c)
```

+*Out[28]:*+

```
[801.    39.24 25.63 26.16 25.21]
```

+*In[ ]:*+ [source, ipython3]