

NUMPY

Problem 1

Spyder (Python 3.7)

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File explorer: C:\Users\Maricar\Downloads\X_normalized.py

```

1 import numpy as np
2 X=np.random.random((5,5))
3 sd=np.std(X)
4 mean=np.mean(X)
5 Z=(X-mean)/sd
6 np.save('X_normalized',Z)
7
8
9

```

Variable explorer

Name	Type	Size	Value
X	float64	(5, 5)	[[0.6909715 0.57062486 0.59675694 0.49098904 0.05727494] [0.27824009 ... [0.27824009 ... [0.27824009 ... [0.27824009 ...
Z	float64	(5, 5)	[[0.72657311 0.22021194 0.33016323 -0.11485757 -1.93971932] [-1.01 ... [-1.01 ... [-1.01 ... [-1.01 ...
mean	Float64	1	0.5182071845914845
sd	float64	1	0.23766956419741453

Help

SourceConsole Object

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9:54 pm 30/11/2019

Problem 2

Spyder (Python 3.7)

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File explorer: C:\Users\Maricar\Desktop\div_by_3.py

```

1 import numpy as np
2 A=np.array(range(1,101))
3 A.resize(10,10)
4 sq=A**2
5 div=sqr[sqr%3==0]
6 np.save('div_by_3',div)
7
8
9

```

Variable explorer

Name	Type	Size	Value
A	int32	(10, 10)	[[1 2 3 ... 8 9 10] [11 12 13 ... 18 19 20] [21 22 23 ... 28 29 30] [31 32 33 ... 38 39 40] [41 42 43 ... 48 49 50] [51 52 53 ... 58 59 60] [61 62 63 ... 68 69 70] [71 72 73 ... 78 79 80] [81 82 83 ... 89 90 91] [91 92 93 ... 99 100]
div	int32	(33,)	ndarray object of numpy module
m	int32	(100,)	[1 2 3 ... 98 99 100]
sqr	int32	(10, 10)	ndarray object of numpy module

div - ...

0	1	2	3	4	5	6	7	8	9
9	36	81	144	225	256	289	324	361	400
441	484	529	576	625	676	729	784	841	900
961	1024	1089	1156	1225	1296	1369	1444	1521	1600
1681	1764	1849	1936	2025	2116	2209	2304	2401	2500
2601	2704	2809	2916	3025	3136	3249	3364	3481	3600
3721	3844	3969	4096	4225	4356	4489	4624	4761	4900
5041	5184	5329	5476	5625	5776	5929	6084	6241	6400
6561	6724	6889	7056	7225	7396	7569	7744	7921	8100
8281	8464	8649	8836	9025	9216	9409	9604	9801	10000

div_by_3.py

sq - NumPy array

0	1	2	3	4	5	6	7	8	9
1	4	9	16	25	36	49	64	81	100
121	144	169	196	225	256	289	324	361	400
441	484	529	576	625	676	729	784	841	900
961	1024	1089	1156	1225	1296	1369	1444	1521	1600
1681	1764	1849	1936	2025	2116	2209	2304	2401	2500
2601	2704	2809	2916	3025	3136	3249	3364	3481	3600
3721	3844	3969	4096	4225	4356	4489	4624	4761	4900
5041	5184	5329	5476	5625	5776	5929	6084	6241	6400
6561	6724	6889	7056	7225	7396	7569	7744	7921	8100
8281	8464	8649	8836	9025	9216	9409	9604	9801	10000

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