Floor, Ceil and Rint ★

75/115 challenges solved

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floor

The tool floor returns the floor of the input element-wise.

The floor of x is the largest integer i where $i \leq x$.

```
import numpy

my_array = numpy.array([1.1, 2.2, 3.3, 4.4, 5.5, 6.6, 7.7, 8.8, 9.9])
print numpy.floor(my_array)       #[ 1.  2.  3.  4.  5.  6.  7.  8.  9.]
```

ceil

The tool ceil returns the ceiling of the input element-wise.

The ceiling of x is the smallest integer i where $i \geq x$.

```
import numpy

my_array = numpy.array([1.1, 2.2, 3.3, 4.4, 5.5, 6.6, 7.7, 8.8, 9.9])
print numpy.ceil(my_array)        #[ 2.  3.  4.  5.  6.  7.  8.  9. 10.]
```

rint

The rint tool rounds to the nearest integer of input element-wise.

```
import numpy

my_array = numpy.array([1.1, 2.2, 3.3, 4.4, 5.5, 6.6, 7.7, 8.8, 9.9])
print numpy.rint(my_array)        #[ 1.  2.  3.  4.  6.  7.  8.  9. 10.]
```

Task

You are given a 1-D array, A. Your task is to print the *floor*, *ceil* and *rint* of all the elements of A.

Note

In order to get the correct output format, add the line **numpy.set_printoptions(legacy='1.13')** below the numpy import.

Input Format

A single line of input containing the space separated elements of array A.

Output Format

On the first line, print the *floor* of A.

On the second line, print the *ceil* of A.

On the third line, print the *rint* of A.

Sample Input

```
1.1 2.2 3.3 4.4 5.5 6.6 7.7 8.8 9.9
```

Sample Output

```
[ 1.  2.  3.  4.  5.  6.  7.  8.  9.]
[ 2.  3.  4.  5.  6.  7.  8.  9. 10.]
[ 1.  2.  3.  4.  6.  7.  8.  9. 10.]
```

Change Theme Python 3

```
1  import numpy as np
2
3  np.set_printoptions(legacy='1.13')
4
5  if __name__ == '__main__':
6      values = list(map(float, input().split()))
7
8      array = np.array(values)
9
10     print(np.floor(array))
11     print(np.ceil(array))
12     print(np.rint(array))
13
```

Line: 13 Col: 1

Upload Code as File Test against custom input Run Code Submit Code

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75/115 challenges solved.

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Next Challenge

Test case 0

Test case 1

Compiler Message

Success

Test case 2

Input (stdin) Download

```
1.1 2.2 3.3 4.4 5.5 6.6 7.7 8.8 9.9
```

Expected Output Download

```
[ 1.  2.  3.  4.  5.  6.  7.  8.  9.]
[  2.   3.   4.   5.   6.   7.   8.   9.  10.]
[  1.   2.   3.   4.   6.   7.   8.   9.  10.]
```