Eye and Identity

106/115 challenges solved

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identity

The identity tool returns an identity array. An identity array is a square matrix with all the main diagonal elements as **1** and the rest as **0**. The default type of elements is float.

```
import numpy
print numpy.identity(3) #3 is for  dimension 3 X 3

#Output
[[ 1.  0.  0.]
 [ 0.  1.  0.]
 [ 0.  0.  1.]]
```

eye

The eye tool returns a 2-D array with **1**'s as the diagonal and **0**'s elsewhere. The diagonal can be main, upper or lower depending on the optional parameter k. A positive k is for the upper diagonal, a negative k is for the lower, and a **0** k (default) is for the main diagonal.

```
import numpy
print numpy.eye(8, 7, k = 1)    # 8 X 7 Dimensional array with first upper diagonal 1.

#Output
[[ 0.  1.  0.  0.  0.  0.  0.]
 [ 0.  0.  1.  0.  0.  0.  0.]
 [ 0.  0.  0.  1.  0.  0.  0.]
 [ 0.  0.  0.  0.  1.  0.  0.]
 [ 0.  0.  0.  0.  0.  1.  0.]
 [ 0.  0.  0.  0.  0.  0.  1.]
 [ 0.  0.  0.  0.  0.  0.  0.]
 [ 0.  0.  0.  0.  0.  0.  0.]]

print numpy.eye(8, 7, k = -2)   # 8 X 7 Dimensional array with second lower diagonal 1.
```

Task

Your task is to print an array of size NXM with its main diagonal elements as **1**'s and **0**'s everywhere else.

Note

In order to get alignment correct, please insert the line **numpy.set_printoptions(legacy='1.13')** below the numpy import.

Input Format

A single line containing the space separated values of N and M.

N denotes the rows.

M denotes the columns.

Output Format

Print the desired NXM array.

Sample Input

```
3 3
```

Sample Output

```
[[ 1.  0.  0.]
 [ 0.  1.  0.]
 [ 0.  0.  1.]]
```

Change Theme Language Python 3

```
1  import numpy as np
2
3  np.set_printoptions(legacy='1.13')  # This is to match Hackerrank's output format
4
5  n, m = map(int, input().split())
6  print(np.eye(n, m))
```

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

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106/115 challenges solved.

92%

Congratulations

You solved this challenge. Would you like to challenge your friends?

Next Challenge

- Test case 0
- Test case 1
- Test case 2

Compiler Message

```
Success
```

Input (stdin) Download

```
3 3
```

Expected Output Download

```
[[ 1.  0.  0.]
 [ 0.  1.  0.]
 [ 0.  0.  1.]]
```