# Principles of NumPy – Homework

Submit your solutions here: <https://judge.softuni.org/Contests/Compete/Index/4515>

## Null Array

Write a program using NumPy that:

* Read as input an integer **N**
* Print a null array (consisting of zeros only) of **length N**

### Examples

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 4 | [0. 0. 0. 0.] | 1 | [0.] | 12 | [0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.] |

## Consecutive Array

Write a program using NumPy that:

* Read as input **two integers** – **start number** and **end number**
* Print an array ranging from start number to end number **inclusive**

### Examples

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 2  5 | [2 3 4 5] | 0  4 | [0 1 2 3 4] | -5  0 | [-5 -4 -3 -2 -1 0] |

## Identity Matrix

Write a program using NumPy that:

* Read an **integer number N**
* Print an **identity matrix of size N**

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 4 | [[1. 0. 0. 0.]  [0. 1. 0. 0.]  [0. 0. 1. 0.]  [0. 0. 0. 1.]] |
| 1 | [[1.]] |
| 3 | [[1. 0. 0.]  [0. 1. 0.]  [0. 0. 1.]] |

## Evenly Spaced Array

Write a program using NumPy that:

* Read **three integers** – **start**, **stop**,and N
* Prints an **array of N** with evenly spaced numbers between **start** and **stop**

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 1  10  5 | [ 1. 3.25 5.5 7.75 10. ] |
| 0  1  10 | [0. 0.11111111 0.22222222 0.33333333 0.44444444 0.55555556  0.66666667 0.77777778 0.88888889 1. ] |
| -10  10  3 | [-10. 0. 10.] |