

## Maximum Weight Node

Given a maze with **N** cells. Each cell may have multiple entry points but not more than one exit (i.e entry/exit points are unidirectional doors like valves).

You are given an array **Edge[]** of **N** integers, where **Edge[i]** contains the cell index that can be reached from cell **i** in one step. **Edge[i]** is **-1** if the **i**th cell doesn't have an exit.

The task is to find the cell with **maximum weight** (The weight of a cell is the sum of cell indexes of all cells pointing to that cell). If there are multiple cells with the maximum weight return the cell with highest index.

**Note:** The cells are indexed with an integer value from 0 to N-1. If there is no cell pointing to the **i**th cell then the weight of the **i**'th cell is zero.

### **Example 1:**

#### **Input:**

N = 4

Edge[] = {2, 0, -1, 2}

#### **Output:** 2

#### **Explanation:**

1 -> 0 -> 2 <- 3

weight of 0th cell = 1

weight of 1st cell = 0

(because there is no cell pointing to the 1st cell)

weight of 2nd cell = 0+3 = 3

weight of 3rd cell = 0

There is only one cell which has maximum weight

(i.e 2) So, cell 2 is the output.

### **Example 2:**

#### **Input:**

```
N = 1
```

```
Edge[] = {-1}
```

**Output:** 0

**Explanation:**

weight of 0<sup>th</sup> cell is 0.

There is only one cell so

cell 0 has maximum weight.

**Your task:**

You don't need to read input or print anything. Your task is to complete the function **maxWeightCell()** which takes the integer N denoting the number of cells and the array Edge[] as input parameters and returns the cell which has maximum weight. If there are multiple answers then return the cell with highest index.

**Expected Time Complexity:** O(N)

**Expected Auxiliary Space:** O(N)

**Constraints:**

$1 \leq N \leq 10^5$

$-1 \leq \text{Edge}[i] < N$

$\text{Edge}[i] \neq i$