Programming Assignment-1: Computing Paradox

**Due on 2020-03-12, 23:59 IST**

You are provided with a playlist containing **N** songs, each has a unique positive integer length. Assume you like all the songs from this playlist, but there is a song, which you like more than others.  
It is named "Computing Paradox".  
  
You decided to sort this playlist in increasing order of songs length. For example, if the lengths of the songs in the playlist were {1, 3, 5, 2, 4} after sorting it becomes {1, 2, 3, 4, 5}.  
Before the sorting, "Computing Paradox" was on the **kth** position (1-indexing is assumed for the playlist) in the playlist.  
  
Your task is to find the position of "Computing Paradox" in the sorted playlist.  
  
**Input Format:**  
The first line contains two numbers **N** denoting the number of songs in the playlist.  
The second line contains **N** space separated integers **A1, A2, A3,..., AN** denoting the lengths of songs.  
The third line contains an integer **k**, denoting the position of "Computing Paradox" in the initial playlist.  
  
**Output Format:**  
  
Output a single line containing the position of "Computing Paradox" in the sorted playlist.  
  
**Example:**  
  
**Input:**  
4  
1 3 4 2  
2  
  
  
**Output:**

3

**Explaination:**

N equals to 4, k equals to 2, A equals to {1, 3, 4, 2}. The answer is 3 because {1, 3, 4, 2} -> {1, 2, 3, 4}.

Top of Form

Select the Language for this assignment.                                     

You may submit any number of times before the due date. The final submission will be considered for grading.

**This assignment has Public Test cases. Please click on "Compile & Run" button to see the status of Public test cases. Assignment will be evaluated only after submitting using Submit button below. If you only save as or compile and run the Program , your assignment will not be graded and you will not see your score after the deadline.**

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Bottom of Form

Sample Test Cases

|  |  |  |
| --- | --- | --- |
|  | **Input** | **Output** |
| Test Case 1 | 5  1 2 3 9 4  5 | 4 |
| Test Case 2 | 5  1 2 3 9 4  1 | 1 |
| Test Case 3 | 6  1 3 5 2 4 6  3 | 5 |

Programming Assignment-2: Dictionary

**Due on 2020-03-12, 23:59 IST**

Given a positive integer number **n**, you have to write a program that generates a dictionary **d** which contains **(i, i\*i\*i)**such that **i** is the key and **i\*i\*i** is its value, where **i** is from **1 to n (both included)**.  
Then you have to just print this dictionary **d**.  
  
Example:  
Input: 4  
  
will give output as  
{1: 1, 2: 8, 3: 27, 4: 64}  
  
**Input Format:**  
Take the number **n** in a single line.  
  
**Output Format:**  
Print the dictionary **d** in a single line.  
  
  
Example:  
  
Input:  
8  
  
Output:  
{1: 1, 2: 8, 3: 27, 4: 64, 5: 125, 6: 216, 7: 343, 8: 512}  
  
Explanation:  
  
Here **n** is 8, we will start from **i=1**, hence the first element of the dictionary is **(1: 1)**, as i becomes **2**, the second element of the dictionary becomes **(2: 8)** and so on.  
Hence the output will be **{1: 1, 2: 8, 3: 27, 4: 64, 5: 125, 6: 216, 7: 343, 8: 512}**.

Top of Form

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Bottom of Form

Sample Test Cases

|  |  |  |
| --- | --- | --- |
|  | **Input** | **Output** |
| Test Case 1 | 3 | {1: 1, 2: 8, 3: 27} |
| Test Case 2 | 4 | {1: 1, 2: 8, 3: 27, 4: 64} |
| Test Case 3 | 5 | {1: 1, 2: 8, 3: 27, 4: 64, 5: 125} |

Programming Assignment-3: Functions

**Due on 2020-03-12, 23:59 IST**

Given an integer number **n**, define a function named **printDict()** which can print a dictionary where the keys are numbers between **1** and **n** (both included) and the values are square of keys.  
The function **printDict()** doesn't take any argument.  
  
Input Format:  
The first line contains the number **n**.  
  
Output Format:  
Print the dictionary in one line.  
  
Example:  
  
Input:  
5  
  
Output:  
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25}  
  
NOTE: You are supposed to write the code for the function **printDict()**only.The function has already been called in the main part of the code.

Top of Form

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Bottom of Form

Sample Test Cases

|  |  |  |
| --- | --- | --- |
|  | **Input** | **Output** |
| Test Case 1 | 4 | {1: 1, 2: 4, 3: 9, 4: 16} |
| Test Case 2 | 10 | {1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100} |
| Test Case 3 | 14 | {1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 12: 144, 13: 169, 14: 196} |