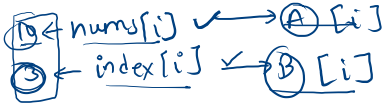


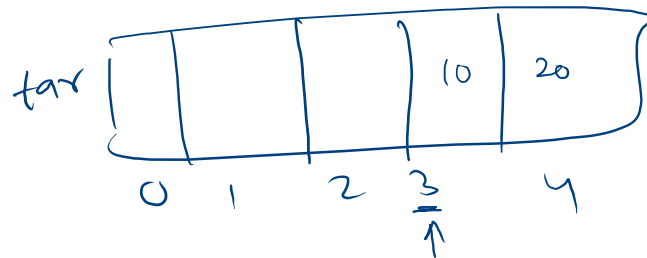
# Solve Array



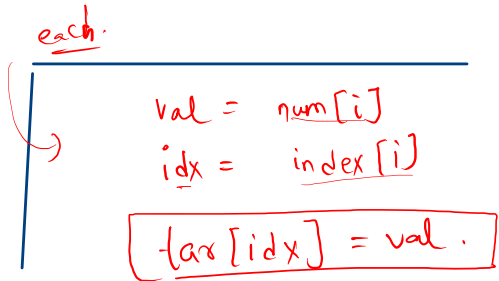
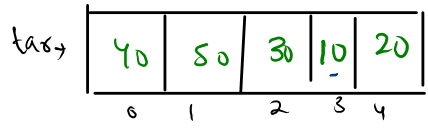
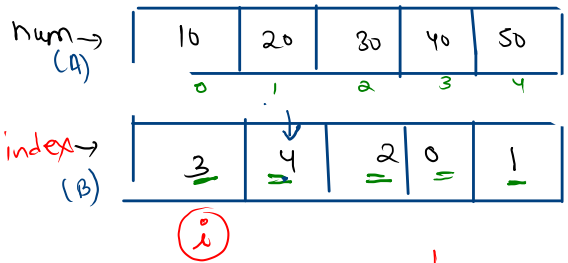
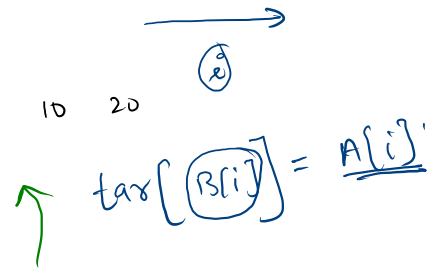
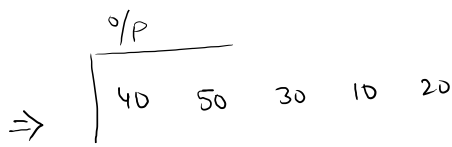
Take  $n$  as an integer input representing size of both array.

Take  $n$  integer inputs for numbers array and Then take  $n$  integer inputs for array indexes where each integer input can be from  $0$  till  $\text{numbers.length}$

Then create an array of size  $n$  and name it target array. From left to right read  $\text{numbers}[i]$  and  $\text{index}[i]$  and in the target array at the index  $\text{index}[i]$  insert the value  $\text{numbers}[i]$ .



eg.  $n/p$  5  
idx  $B[i]$   
val  
10 20 30 40 50  
(3 4 2 0 1)  $< n$



```

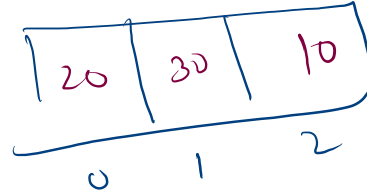
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         Scanner scn = new Scanner(System.in);
8         int n = scn.nextInt();
9         int [] A = new int[n];
10        for(int i = 0; i < n; i++){
11            A[i] = scn.nextInt();
12        }
13        int [] index = new int[n];
14        for(int i = 0; i < n; i++){
15            index[i] = scn.nextInt();
16        }
17
18        //logic
19        int [] tar = new int[n];
20
21        for(int i = 0; i < n; i++){
22            int val = A[i];
23            int idx = index[i];
24            tar[idx] = val;
25        }
26
27        for(int i = 0; i < n; i++){
28            System.out.print(tar[i] + " ");
29        }
30    }
31 }

```

A

10	20	30
0	1	2
2	0	1

index



$i = 1$

$tar[0] = 20$   
 $tar[idx] = val$

$1 < 3^{\checkmark}$

$val = 20$   
 $idx = 0$

## Add One.

Take an **array arr** of size **N** as input which represents a **large number**.

**Add 1 (one)** to this large number and print the resultant array.

eg:- [4,2,3,6,5,8,7,1,5,3,9,6] In this case answer must be [4,2,3,6,5,8,7,1,5,3,9,7]

**Note:** The large integer does not contain any **leading 0's** in the array.

1 2 3 4 5 6 7 8 1 2 3 4 5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

5

1	2	3	4	5
---	---	---	---	---

1	2	3	4	6
---	---	---	---	---

#1

$$\begin{array}{r} 12345 \\ + 1 \\ \hline 12346 \end{array}$$

#

2

$$\begin{array}{r} 119 \\ + 1 \\ \hline 120 \end{array}$$

#3

99

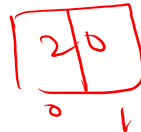
$$\begin{array}{r} 1234^5 \\ + 1 \\ \hline \end{array}$$

$$\begin{array}{r} 120 \\ \hline \end{array}$$

Case  
2      19

2

19



int [ ] arr = new

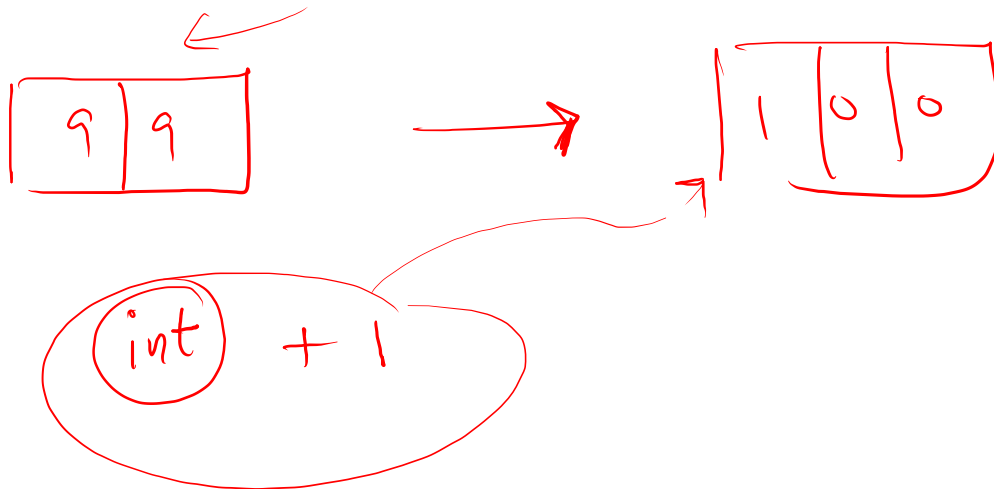
$$\begin{array}{r} 19 \\ + 1 \\ \hline 20 \end{array}$$

$$\begin{array}{r} 19 \\ + 1 \\ \hline \end{array}$$



case 3-

$n = 2$



3  
i/p 

1	2	3
---	---	---

o/p  $\rightarrow$ 

1	2	4
---	---	---

3  
i/p  $\rightarrow$ 

1	2	9
---	---	---

1	3	0
---	---	---

3  
i/p 

9	9	9
---	---	---

$\rightarrow$ 

1	0	0	0
---	---	---	---

3  

1	8	5
---	---	---

1	8	6
---	---	---

2  

2	3
---	---

2	4
---	---

4  

9	9	9	9
---	---	---	---

1	0	0	0	0
---	---	---	---	---

4  

1	0	0	<u>1</u>
---	---	---	----------

 $\rightarrow$  int

1	0	0	2
---	---	---	---

1	19
---	----

1   0   0   2

↳

1	2	3
---	---	---

int

$$\begin{array}{r} 123 \\ + 1 \\ \hline \end{array}$$

$$\begin{array}{r} 124 \\ \hline \end{array}$$

12

1	2	4
---	---	---

3	2	4	1	0	2	3	4	0	2	3	4	5	6	3	4	2	1	3
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

$$\begin{array}{r}
 1 \ 2 \ 3 \\
 +1 \\
 \hline
 1 \ 2 \ 4
 \end{array}$$

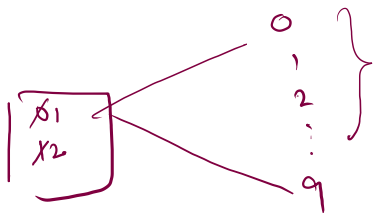
$$\begin{array}{r}
 \boxed{1 \mid 2 \mid 3} \\
 0 \\
 \hline
 4
 \end{array}$$

right to left  
carry = 1

$$\begin{array}{r}
 \downarrow \\
 1 \ 2 \ 0 \\
 1 \ 2 \ 1 \\
 1 \ 2 \ 2 \\
 \vdots \\
 1 \ 2 \ 9
 \end{array}$$

$$\begin{array}{r}
 0 \} \\
 1 \} \\
 2 \} \\
 3 \} \\
 4 \} \\
 \vdots \\
 8 \} \\
 9 \rightarrow 10
 \end{array}$$





(10)

$$\left. \begin{array}{c} x \\ 0 \\ \vdots \\ 8 \end{array} \right\} \begin{array}{l} \text{carry} = 0 \\ \text{val} = x + 1 \end{array}$$

$$\left. \begin{array}{c} 9 \\ \vdots \end{array} \right\} \begin{array}{l} \text{(10)} \\ \text{carry} = 1 \\ \text{val} = 0 \end{array}$$

$$\begin{array}{r} 0 \\ 18 \\ + 1 \\ \hline \end{array} \quad \rightarrow \quad \begin{array}{r} 1 \\ 18 \\ \hline \end{array}$$

A → 

1	2	3
---	---	---

expected  
ans

1	2	4
---	---	---

n=3

1	2	3
---	---	---

  
0 1 2

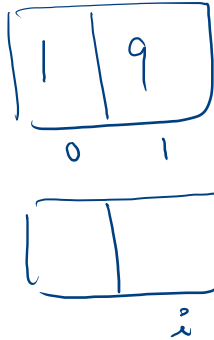
carry = ~~X~~ ~~0~~ ~~0~~ 0

1	2	4
---	---	---

0

val = 1 + 0 = 1

```
13 int [] ans = new int[n];
14
15 //solve
16
17 int carry = 1;
18 for(int i = n-1; i >= 0; i--){
19     int val = A[i] + carry; ✓
20     if(val == 10){
21
22     }else{ //val is not 10 i.e, val < 10
23         ans[i] = val;
24         carry = 0;
25     }
26 }
27 }
28 }
```



```

13 int [] ans = new int[n];
14
15 //solve
16
17 int carry = 1;
18 for(int i = n-1; i >= 0; i--){
19     int val = A[i] + carry;
20     if(val == 10){
21
22     }else{          //val is not 10 i.e, val < 10
23         ans[i] = val;
24         carry = 0;
25     }
26 }
27 }
28

```

2

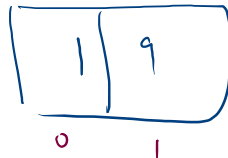
19

```

int carry = 1;
for(int i = n-1; i >= 0; i--){
    int val = A[i] + carry;
    if(val == 10){
        ans[i] = 0;
        carry = 1;
    }else{ //val is not 10 i.e, val < 10
        ans[i] = val;
        carry = 0;
    }
}

```

n=2


~~Carry = 1~~ 0


i

$$v = 9 + 1 = 10$$

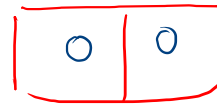
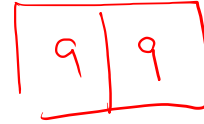
$$v = 1 + 1 = \textcircled{2}$$

2

9 9

```
int carry = 1;
for(int i = n-1; i >= 0; i--){
    int val = A[i] + carry;
    if(val == 10){
        ans[i] = 0;
        carry = 1;
    }else{ //val is not 10 i.e, val < 10
        ans[i] = val;
        carry = 0;
    }
}
```

n=2



i

$$v = 9 + 1 = 10$$
$$= 9 + 1 = 10$$

carry = ~~X~~ ~~X~~ 1

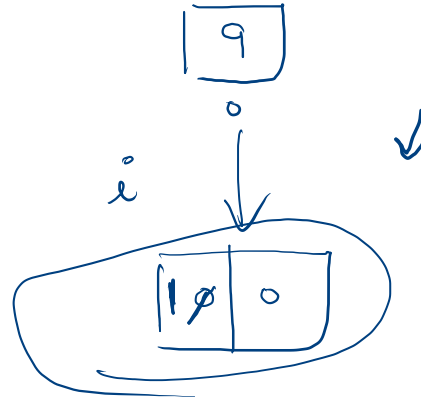
```

1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         Scanner scn = new Scanner(System.in);
8         int n = scn.nextInt();
9         int [] A = new int[n];
10        for(int i = 0; i < n; i++){
11            A[i] = scn.nextInt();
12        }
13        int [] ans = new int[n];
14        //solve
15        int carry = 1;
16        for(int i = n-1; i >= 0; i--){
17            int val = A[i] + carry;
18            if(val == 10){
19                ans[i] = 0;
20                carry = 1;
21            }else{ //val is not 10 i.e, val < 10
22                ans[i] = val;
23                carry = 0;
24            }
25        }
26        if(carry == 1){ //resize
27            ans = new int[n+1];
28            ans[0] = 1;
29        }
30    }
31    //print
32    for(int i = 0; i < ans.length; i++){
33        System.out.print(ans[i] + " ");
34    }
35 }
36

```

$n = 1$

carry = 1



```
1  class Solution {
2      public int[] plusOne(int[] A) {
3          int n = A.length;
4          int [] ans = new int[n];
5          //solve
6          int carry = 1;
7          for(int i = n-1; i >= 0; i--){
8              int val = A[i] + carry;
9              if(val == 10){
10                 ans[i] = 0;
11                 carry = 1;
12             }else{ //val is not 10 i.e, val < 10
13                 ans[i] = val;
14                 carry = 0;
15             }
16         }
17         if(carry == 1){ //resize
18             ans = new int[n+1];
19             ans[0] = 1;
20
21         }
22         return ans;
23     }
24 }
```

# Print Pair

Take the array of size **n** and their values from user. And Print all the **pairs** in the array.

Sample Input 0

```
5
1 2 3 4 5
```

Sample Output 0

```
{
1 2
1 3
1 4
1 5
2 3
2 4
2 5
3 4
3 5
4 5
}
```

*logic.*

s e

0 1 2 1

0 1 3 2

0 1 4 3

0 1 5 4

1 2 3 2

1 2 4 3

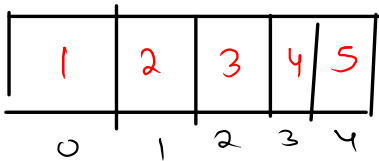
1 2 5 4

2 3 4 3

2 3 5 4

3 4 5 4

*n=5*



<i>s=0</i>	<i>1, 2, 3, 4</i>
<i>s=1</i>	<i>2, 3, 4</i>
<i>s=2</i>	<i>3, 4</i>
<i>s=3</i>	<i>4</i>



$$n=5$$

$$\begin{array}{ccccccc} 0 & & & & & < & n-1 \\ 0 & 1 & 2 & 3 & & & < 4 \\ \hline \end{array}$$

$s=0$	1, 2, 3, 4
$s=1$	<u>2</u> , 3, 4
$s=2$	3, 4
$s=3$	4

$$\begin{array}{l} \underline{s=0} \\ e[s+1, < n] \\ [1, 2, 3, 4] \end{array}$$

$$\begin{array}{l} s=1 \\ e[s+1, < n] \\ [2, 3, 4] \end{array}$$

$n = 4$

10	20	30	40
0	1	2	3

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         Scanner scn = new Scanner(System.in);
8         int n = scn.nextInt();
9         int [] A = new int[n];
10        for(int i = 0; i < n; i++){
11            A[i] = scn.nextInt();
12        }
13
14        //logic
15        for(int s = 0; s < n-1; s++){
16            for(int e = s + 1; e < n; e++){
17                System.out.println(A[s] + " " + A[e]);
18            }
19        }
20
21    }
22 }
```

$s < n-1$

$0 < 3$  ✓

$s = 0$

for  $e = \checkmark$   $1 < 4$  ✓  
       $= 2$   $2 < 4$

$A[0]$	$A[1]$
10	20
10	30