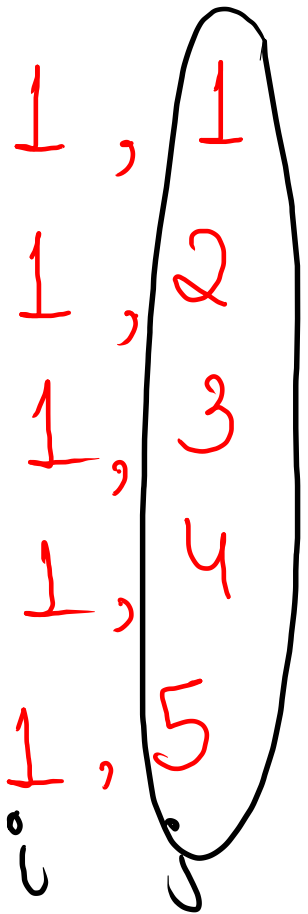
Quel

print permutation pair

1	2	3	4	5
0	1	2	3	4

(n-1)

n=5



1,1 1,2 1,3 1,4 1,5

i j

2,1 2,2 2,3 2,4 2,5

i j

3,1 3,2 3,3 3,4 3,5

i,j

4,1 4,2 4,3 4,4 4,5

i j

5,1 5,2 5,3 5,4 5,5

i j

Code

n = 5;

simple

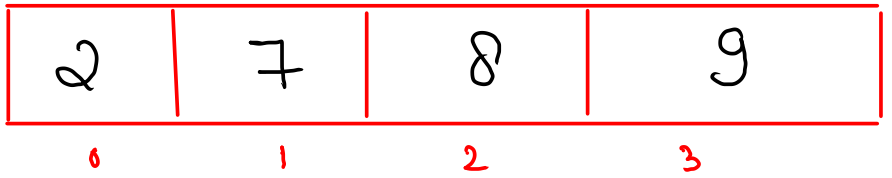
```
for(int i=0; i<n; i++){
    for(int j=0; j<n; j++){
        Syso(arr[i]+" "+arr[j]);
    }
}
```

reverse

```
for(int i=n-1; i>=0; i--){
    for(int j=n-1; j>=0; j--){

    }
}
```

HW_Print Sum of Elements Except Itself

$n = 4$



$i = 0$, ans =

logic

int sum = 2 + 7 + 8 + 9 = 26

$i = 0$, ans = sum - 2 = 24

$i = 1$, ans = sum - 7 = 19

$i = 2$, ans = sum - 8 = 18

$i = 3$, ans = sum - 9 = 17

code

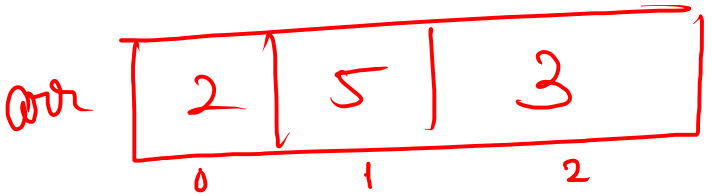
```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int[] arr = new int[n];
    for (int i = 0; i < n; i++) {
        arr[i] = scn.nextInt();
    }

    sumExceptItself(arr, n);
}

public static void sumExceptItself(int[] arr, int n) {
    int sum = 0;
    for (int i = 0; i < n; i++) {
        sum = sum + arr[i];
    }

    for (int i = 0; i < n; i++) {
        int ans = sum - arr[i];
        System.out.println(ans);
    }
}
```

fn calling

fn declaration

Product of Elements Except Itself

n=3



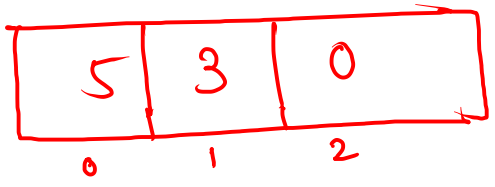
product = 2 * 5 * 3 = 30

i = 0, ans = product / arr[i] = 30/2 = 15

i = 1, ans = 30 / 5 = 6

i = 2, ans = 30 / 3 = 10

Code



i=0 ; ans = 0/5 = 0

i=1 ; ans = 0/3 = 0

i=2 ; ans = 0/0 =

error

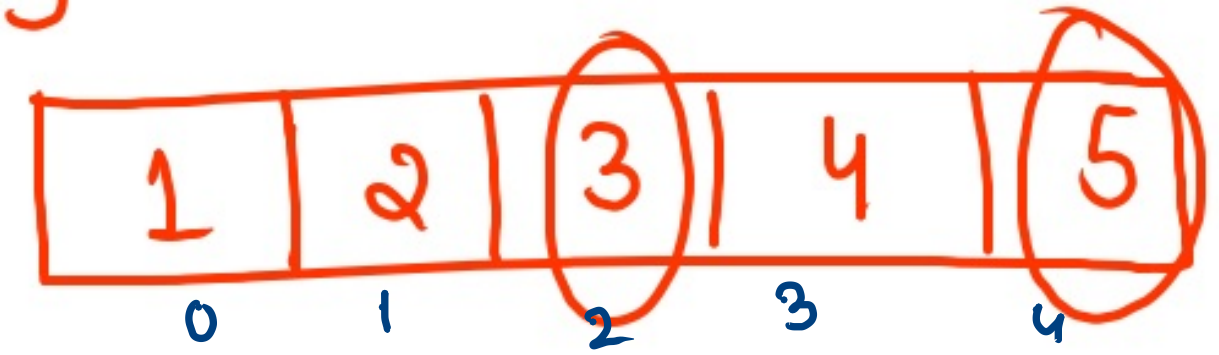
```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int[] arr = new int[n];
    for (int i = 0; i < n; i++) {
        arr[i] = scn.nextInt();
    }

    solve(arr, n);
}

public static void solve(int[] arr, int n) {
    int prod = 1;
    for (int i = 0; i < n; i++) {
        prod = prod * arr[i];
    }

    for (int i = 0; i < n; i++) {
        int ans = prod / arr[i];
        System.out.println(ans);
    }
}
```

Find all Combination

dry run

n = 5

arr



k = 8

target = 3+5 = 8

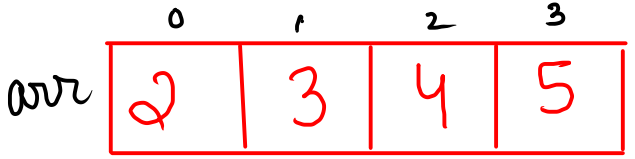
target = 4+4 = 8

Combinations

1,1 = 2	2,2 = 4	3,3 = 6	4,4 = 8	5,5 = 10
1,2 = 3	2,3 = 5	3,4 = 7	4,5 = 9	
1,3 = 4	2,4 = 6	3,5 = 8		
1,4 = 5	2,5 = 7			
1,5 = 6				

Find all Combination

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int[] arr = new int[n];
    for (int i = 0; i < n; i++) {
        arr[i] = scn.nextInt();
    }
    int k = scn.nextInt();

    solve(arr, n, k);
}

public static void solve(int[] arr, int n, int k) {
    for (int i = 0; i < n; i++) {
        for (int j = i; j < n; j++) {
            if ( arr[i] + arr[j] == k ) {
                System.out.println(arr[i] + " " + arr[j]);
            }
        }
    }
}
```



target = 7

i = 0, j = 0 sum = 2+2 = 4 false
j = 1 sum = 5
j = 2 sum = 6
j = 3 sum = 7 (2, 5)

i = 1, j = 1 sum = 6
j = 2 sum = 7 (3, 4)
j = 3 sum = 8

i = 2, j = 2 sum = 8
j = 3 sum = 9

i = 3, j = 3 sum = 10

4 ways

Combination with repetation (i=0 , j= i)

Combination without repetation (i=0 , j = i+1)

Permutation with repetation (i=0 , j=0)

Permutation without repetation (i=0 , j=0)
check (i != j)

Greater Than Me

n = 5

1	2	3	4	5
0	1	2	3	4

condition

(arr[j] > arr[i])

Count = 0

i = 1, j = 0 (1 > 2)
i = 1, j = 1 (2 > 2)
i = 1, j = 2 (3 > 2) c = 1
i = 1, j = 3 (4 > 2) c = 2
i = 1, j = 4 (5 > 2) c = 3

print(c) // 3

i = 0, j = 0
i = 0, j = 1
i = 0, j = 2
i = 0, j = 3
i = 0, j = 4

Count = 0

(1 > 1)
(2 > 1) c = 1
(3 > 1) c = 2
(4 > 1) c = 3
(5 > 1) c = 4

print (c) // 4

Count = 0

i = 2, j = 0 (1 > 3)
j = 1 (2 > 3)
j = 2 (3 > 3)
j = 3 (4 > 3) c = 1
j = 4 (5 > 3) c = 2

print (c) // 2

Count = 0

i = 3, j = 0 (1 > 4)
j = 1 (2 > 4)
j = 2 (3 > 4)
j = 3 (4 > 4)
j = 4 (5 > 4) c = 1

print (c) // 1

Count = 0

i = 4, j = 0 (1 > 5)
j = 1 (2 > 5)
j = 2 (3 > 5)
j = 3 (4 > 5)
j = 4 (5 > 5)

print (c) // 0