

Array → Data - Size (60 seat)

int
long
char

1 D
2 D
3 D

4096 x 5 = 20480

main {
arr = 2K
}

① Array → class
non-primitive
Heap
0 0 5 0 0
0 1 2 3 4
WTF? random?

```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    int a;  
    // System.out.println(a);  
    int[] arr = new int[5];  
}
```

```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    int a;  
    // System.out.println(a);  
    int[] arr = new int[5];  
    System.out.println(arr);  
    System.out.println(arr[2]);  
    arr[0]=10;  
    arr[1]=20;  
    arr[2]=30;  
    arr[3]=40;  
    arr[4]=4;  
    System.out.println(arr[0]);  
    System.out.println(arr[1]);  
    System.out.println(arr[2]);  
    System.out.println(arr[3]);  
    System.out.println(arr[4]);  
}
```

arr = 2K

arr[0]=10
arr[1]=20
arr[2]=30
arr[3]=40
arr[4]=4

arr[2]=30
2K + 2x4 = 2008

arr[0] ✓
arr[1] ✓
arr[2] ✓
arr[3] ✓
arr[4] ✓

for (i=0; i < arr.length; i++) {
 arr[i] = sc.nextInt();
}

arr = 2K
arr[0]=10
arr[1]=20
arr[2]=30
arr[3]=40
arr[4]=4

```
public class Take_Input {  
    public static void main(String[] args) {  
        // TODO Auto-generated method stub  
        Scanner sc = new Scanner(System.in);  
        int n = sc.nextInt();  
        int[] arr = new int[n];  
        for (int i = 0; i < arr.length; i++) {  
            arr[i] = sc.nextInt();  
        }  
        Display(arr);  
    }  
    public static void Display(int[] arr) {  
        // TODO Auto-generated method stub  
        for (int i = 0; i < arr.length; i++) {  
            System.out.print(arr[i] + " ");  
        }  
        System.out.println();  
    }  
}
```

arr = 2K
n=5
arr=2K
display(2K)

arr = 2K
arr[0]=10
arr[1]=20
arr[2]=30
arr[3]=40
arr[4]=4

arr = 2K
arr[0]=10
arr[1]=20
arr[2]=30
arr[3]=40
arr[4]=4

```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    int[] arr = { 10, 20, 30, 40, 50 };  
    int[] arr1 = new int [5]{ 10, 20, 30, 40, 50 };  
    System.out.println(arr[0] + " " + arr[1]);  
    Swap(arr[0], arr[1]);  
    System.out.println(arr[0] + " " + arr[1]);  
}  
public static void Swap(int a, int b) {  
    int temp = a;  
    a = b;  
    b = temp;  
}
```

arr = 2K
arr[0]=10
arr[1]=20
arr[2]=30
arr[3]=40
arr[4]=50

arr = 2K
arr[0]=20
arr[1]=10
arr[2]=30
arr[3]=40
arr[4]=50

```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    int[] arr = { 10, 20, 30, 40, 50 };  
    System.out.println(arr[0] + " " + arr[1]);  
    Swap(arr, 0, 1);  
    System.out.println(arr[0] + " " + arr[1]);  
}  
public static void Swap(int[] arr, int i, int j) {  
    // TODO Auto-generated method stub  
    int temp = arr[i];  
    arr[i] = arr[j];  
    arr[j] = temp;  
}
```

arr = 2K
arr[0]=10
arr[1]=20
arr[2]=30
arr[3]=40
arr[4]=50

arr = 2K
arr[0]=20
arr[1]=10
arr[2]=30
arr[3]=40
arr[4]=50

```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    int[] arr = { 10, 20, 30, 40, 50 };  
    int[] other = { 100, 200, 300, 400, 9 };  
    System.out.println(arr[0] + " " + other[0]);  
    Swap(arr, other);  
    System.out.println(arr[0] + " " + other[0]);  
}  
public static void Swap(int[] arr, int[] other) {  
    // TODO Auto-generated method stub  
    int[] temp = arr;  
    arr = other;  
    other = temp;  
}
```

arr = 2K
arr[0]=10
arr[1]=20
arr[2]=30
arr[3]=40
arr[4]=50

arr = 2K
arr[0]=20
arr[1]=10
arr[2]=30
arr[3]=40
arr[4]=50

```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    int[] arr = { 3, 5, 6, 2, 4, 16, 7, 8, 9 };  
    int item = 5;  
    System.out.println(Search(arr, item));  
}
```

```
public static int Search(int[] arr, int item) {  
    for (int i = 0; i < arr.length; i++) {  
        if (arr[i] == item) {  
            return i;  
        }  
    }  
    return -1;  
}
```

int[] arr = { 3, 5, 6, 2, 4, 16, 7, 8, 9 };

```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    int[] arr = { 3, 5, 6, 2, 4, 16, 7, 8, 9 };  
    System.out.println(Maximum(arr));  
}
```

```
public static int Maximum(int[] arr) {  
    int max = arr[0];  
    for (int i = 1; i < arr.length; i++) {  
        if (arr[i] > max) {  
            max = arr[i];  
        }  
    }  
    return max;  
}
```

int[] arr = { 3, 5, 6, 2, 4, 16, 7, 8, 9 };

Two pointer
while(i < j) {
 swap(i, j);
 i++;
 j--;
}