

S - size of array

arr - list of #'s that makes up the array

Goal: output #'s in order with a space-separation on one line

6  
7 4 3 5 6 2  $\Rightarrow$  2 3 4 5 6 7

```
for(int i = 1; i < A.length; i++)
```

```
    int value = A[i]
```

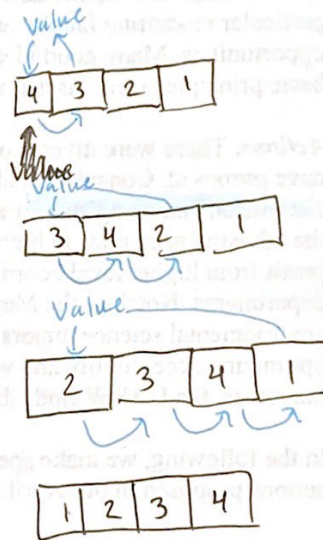
```
    int j = i - 1
```

```
    while(j > 0 && A[j] > value)
```

```
        A[j+1] = A[j]
```

```
        j = j - 1
```

```
    A[j+1] = value;
```



i = 1   i < 6   i++

V = A[i] = 4

j = i - 1 = 1 - 1 = 0   doesn't enter while loop

A[j+1] = value  $\Rightarrow$  A[1] = value  $\Rightarrow$  4 = value   next for loop

7 4 3 5 6 2

iteration overwrites 'value'