

Προγραμματισμός Η/Υ

Παύλος Πέππας

www.bma.upatras.gr/staff/pavlos/

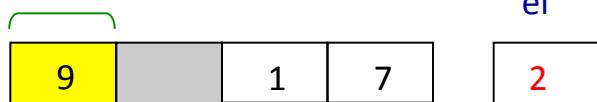
Ταξινόμηση με Παρεμβολή

9	2	1	7
---	---	---	---

Ταξινόμηση με Παρεμβολή

9	2	1	7
---	---	---	---

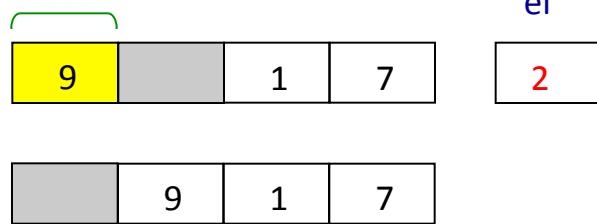
1η Εισαγωγή



Ταξινόμηση με Παρεμβολή

9	2	1	7
---	---	---	---

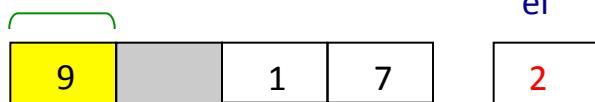
1η Εισαγωγή



Ταξινόμηση με Παρεμβολή

9	2	1	7
---	---	---	---

1η Εισαγωγή



	9	1	7
--	---	---	---

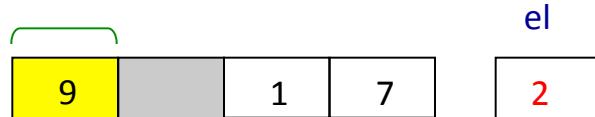
The diagram shows the state of the array after the first insertion step. The element 2 has been inserted at the beginning of the array, resulting in the sequence 2, 9, 1, 7. A green bracket above the first two elements, 2 and 9, indicates they are the current subarray being considered for the next insertion step.

2	9	1	7
---	---	---	---

Ταξινόμηση με Παρεμβολή

9	2	1	7
---	---	---	---

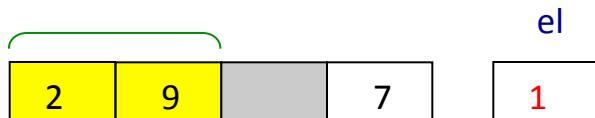
1η Εισαγωγή



	9	1	7
--	---	---	---

	2	9	1	7
--	---	---	---	---

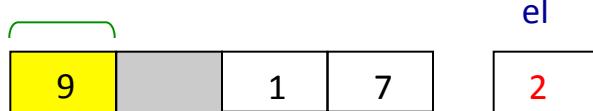
2η Εισαγωγή



Ταξινόμηση με Παρεμβολή

9	2	1	7
---	---	---	---

1η Εισαγωγή

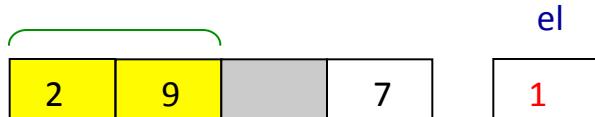


	9	1	7
--	---	---	---

el
2

2	9	1	7
---	---	---	---

2η Εισαγωγή

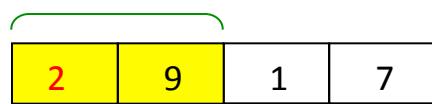
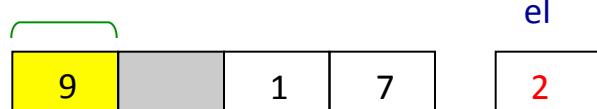


2		9	7
---	--	---	---

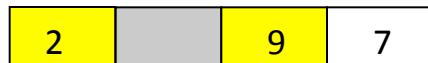
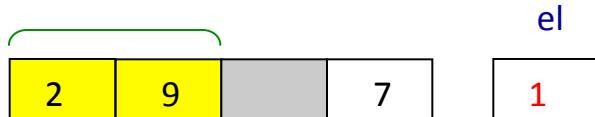
Ταξινόμηση με Παρεμβολή

9	2	1	7
---	---	---	---

1η Εισαγωγή



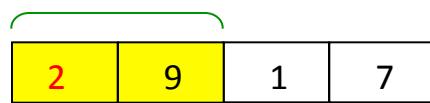
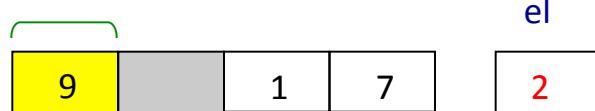
2η Εισαγωγή



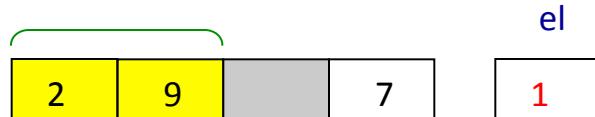
Ταξινόμηση με Παρεμβολή

9	2	1	7
---	---	---	---

1η Εισαγωγή



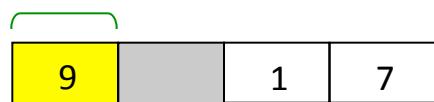
2η Εισαγωγή



Ταξινόμηση με Παρεμβολή



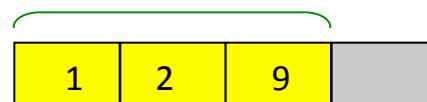
1η Εισαγωγή



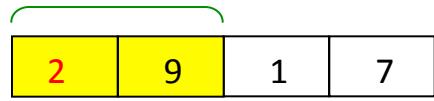
el



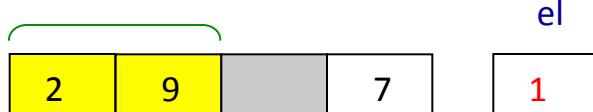
3η Εισαγωγή



el



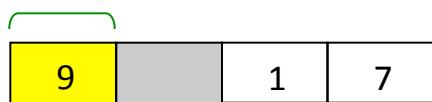
2η Εισαγωγή



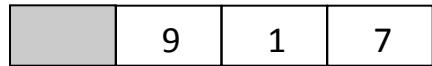
Ταξινόμηση με Παρεμβολή



1η Εισαγωγή



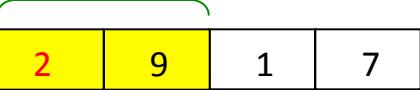
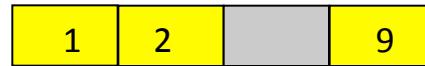
el



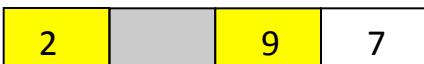
3η Εισαγωγή



el



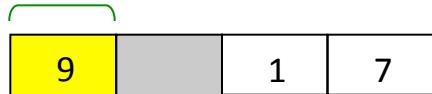
el



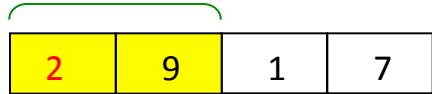
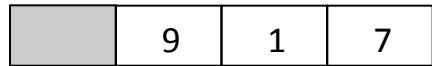
Ταξινόμηση με Παρεμβολή

9	2	1	7
---	---	---	---

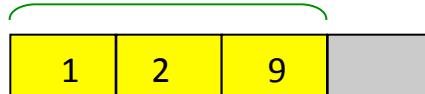
1η Εισαγωγή



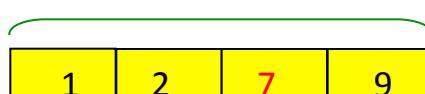
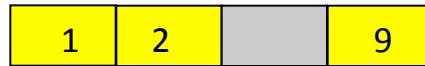
el



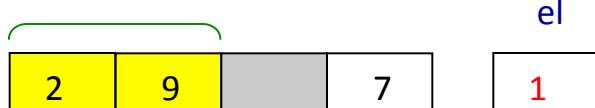
3η Εισαγωγή



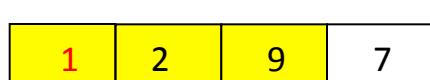
el



2η Εισαγωγή



el



Υλοποίηση InsertionSort σε Java

```
public static void main (String[ ] args)
{
    Scanner input = new Scanner( System.in );
    int x[ ];
    int i, j, el;
    final int n=4;

    x = new int[n];
    System.out.printf("Enter %d integers: ", n);
    System.out.println("The sorted array is:");

    for (i=0; i<n; i++)
        x[i] = input.nextInt();

    for (i=0; i<n; i++)
        System.out.printf("%d\t", x[i]);
}
```

Υλοποίηση InsertionSort σε Java

```
public static void main (String[ ] args)
{
    Scanner input = new Scanner( System.in );
    int x[ ];
    int i, j, el;
    final int n=4;

    x = new int[n];
    System.out.printf("Enter %d integers: ", n);

    for (i=0; i<n; i++)
        x[i] = input.nextInt();
}
```

```
for (i = 1; i<n; i++)
{
    el = x[i]
    for (j = i-1; ( (j>=0) && (x[j] > el) ); j--)
        x[j+1] = x[j];
    x[j+1] = el;
}

System.out.println("The sorted array is:");

for (i=0; i<n; i++)
    System.out.printf("%d\t", x[i]);
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1

i	j	el	n
1	0	2	4

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1

9

i	j	el	n
1	0	2	4

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1

9

i	j	el	n
1	0	2	4

-1

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9		

i	j	el	n
1	0	2	
	-1		4

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9		

i	j	el	n
2	-1	2	4

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9		

i	j	el	n
2	-1	2	4
	1		

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9	9	

i	j	el	n
1	0	2	
2	-1	7	
	1		

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9	9	

i	j	el	n
1	0	2	4
2	-1	7	
	1		
	0		

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9	9	
			7	

i	j	el	n
1	0	2	
2	-1	7	
			4
	1		
	0		

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9	9	
	7			

i	j	el	n
1	0	2	4
2	-1	1	
3	1	1	
	0		
	2		

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9	9	9
	7			

i	j	el	n
1	0	2	
2	-1	1	
3	1	1	
	0		
	2		
	1		

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9	9	9
		7	7	

i	j	el	n
1	0	2	4
2	-1	1	
3	1	1	
	0		
	2		
	1		
0			

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9	9	9
	7	7		
	2			

i	j	el	n
1	0	2	
2	-1	7	
3	1	1	
	0		
	2		
	1		
	0		
-1			

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9	9	9
1		7	7	
2				

i	j	el	n
1	0	2	4
2	-1	7	
3	1	1	
	0		
	2		
	1		
	0		
-1			

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

Υλοποίηση InsertionSort σε Java

	[0]	[1]	[2]	[3]
x	9	2	7	1
	2	9	9	9
1		7	7	
2				

i	j	el	n
1	0	2	4
2	-1	7	
3	1	1	
4	0		
	2		
	1		
	0		
	-1		

```
for (i = 1; i<n; i++)  
{  
    el = x[i]  
    for (j = i-1; ( j>=0) && (x[j] > el) ); j--)  
        x[j+1] = x[j];  
    x[j+1] = el;  
}
```

```
System.out.println("The sorted array is:");
```

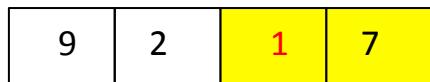
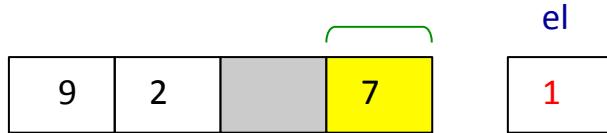
```
for (i=0; i<n; i++)  
    System.out.printf("%d\t", x[i]);
```

```
}
```

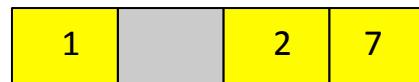
Ταξινόμηση με Παρεμβολή (Ανάποδα)

9	2	1	7
---	---	---	---

1η Εισαγωγή



3η Εισαγωγή



2η Εισαγωγή

