Προγραμματισμός Η/Υ

Παύλος Πέππας

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

Υπολογισμός Μεγίστου Στοιχείου Σειράς

```
public static void main (String[ ] args)
{
      int x[ ] = { 5, 7, 4, 12, 3, 9 };
      int i, max, n;

      max = x[0];
      n = x.length;

      for (i=0; i < n; i++)
        if (x[i] > max)
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      System.out.println("Max = " + max);

}
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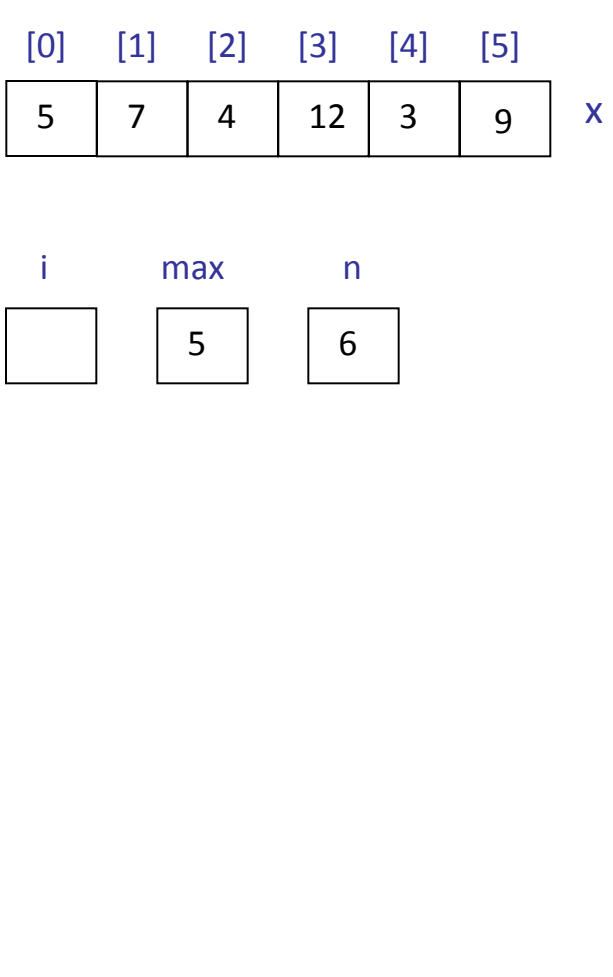

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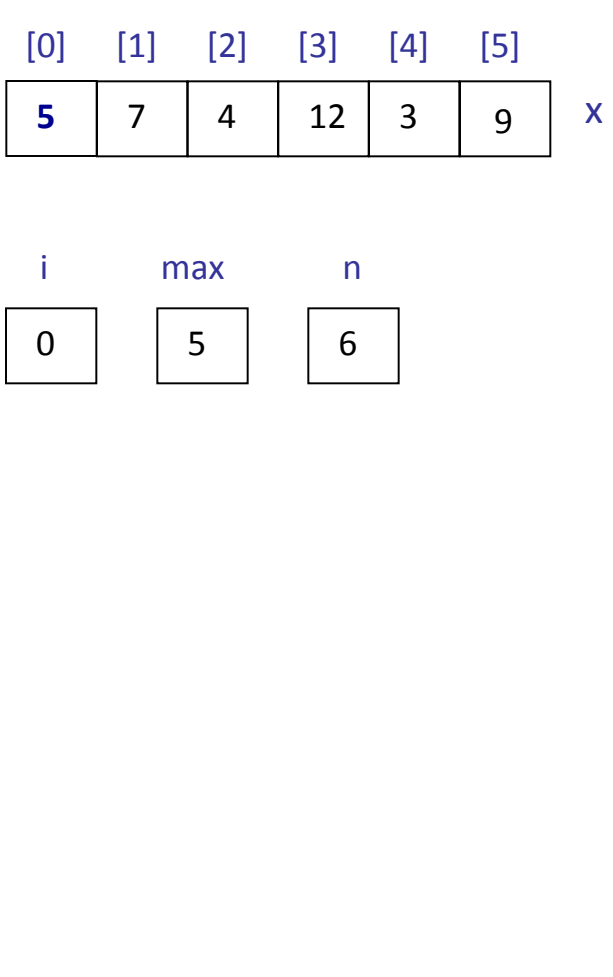

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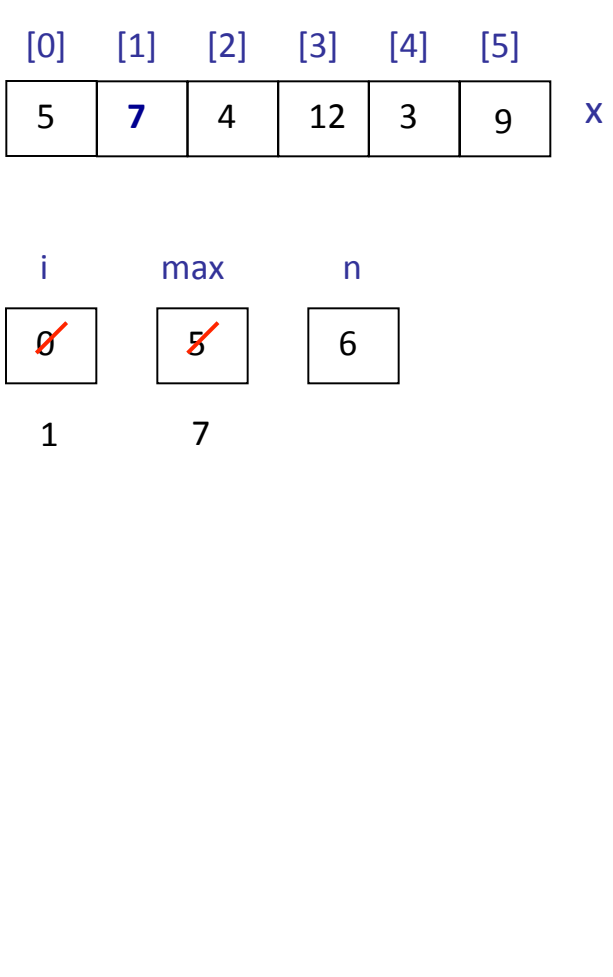

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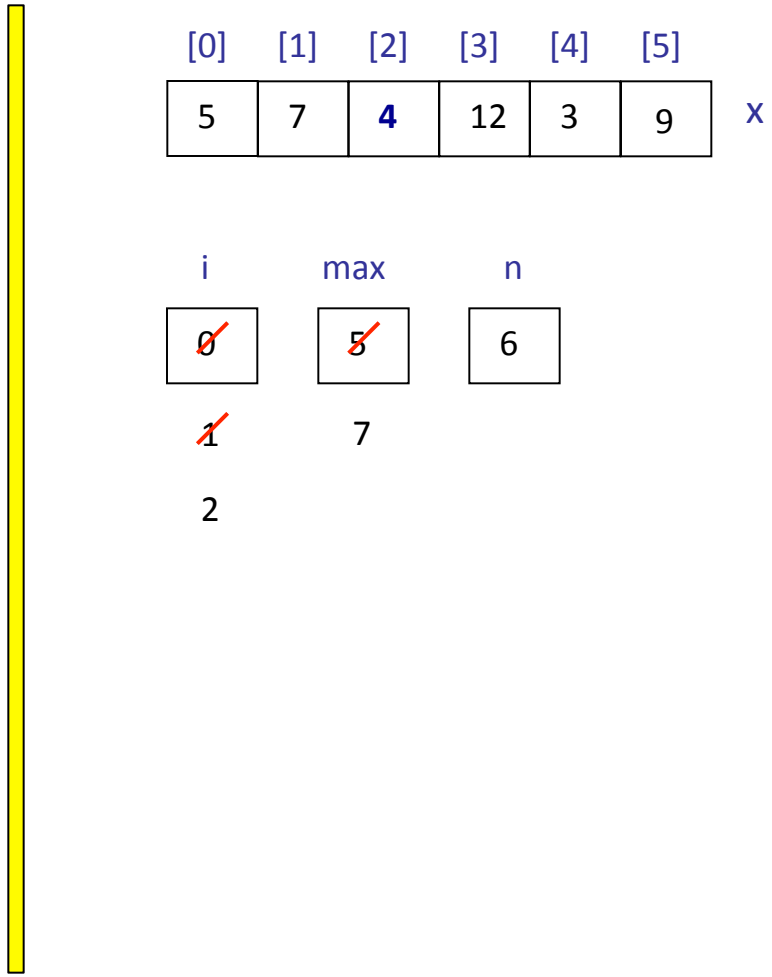

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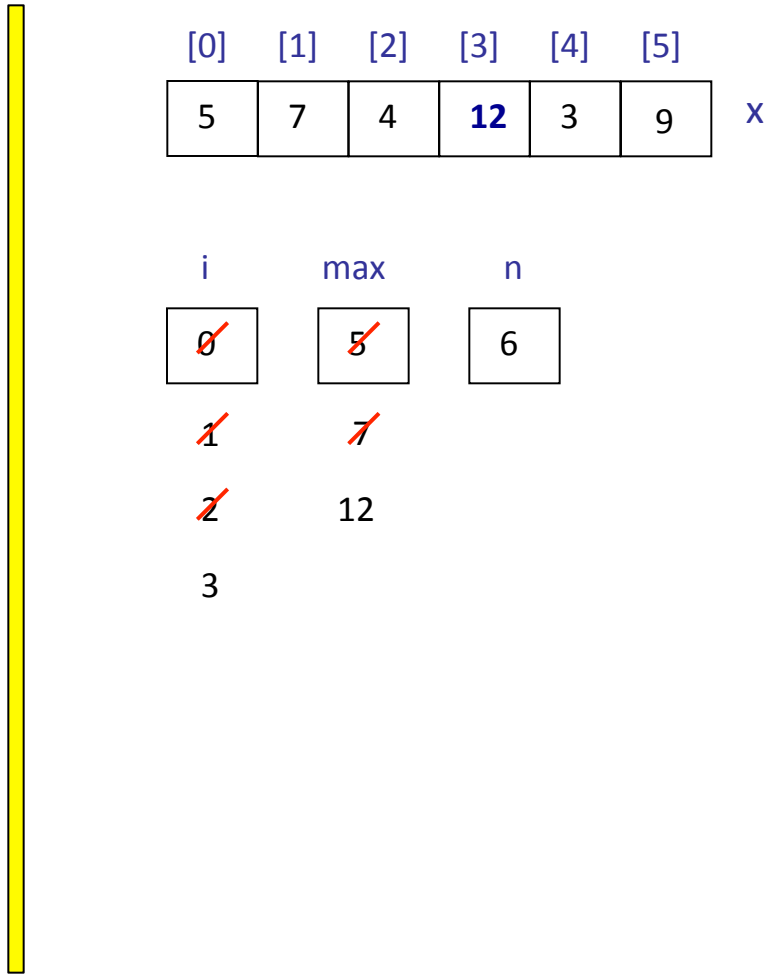

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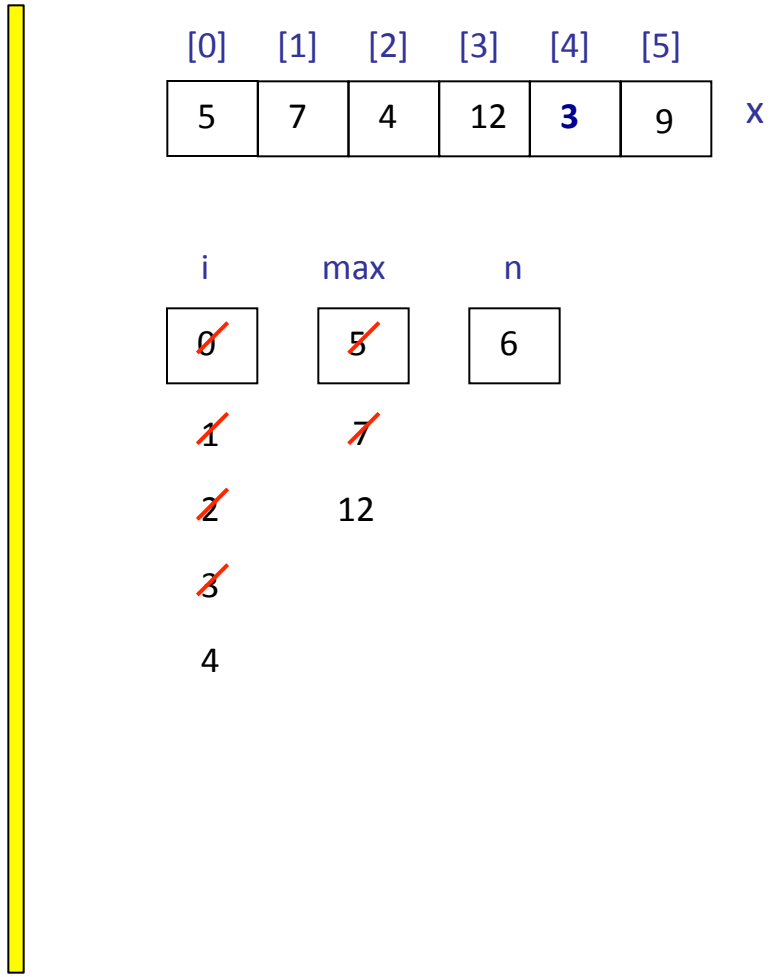

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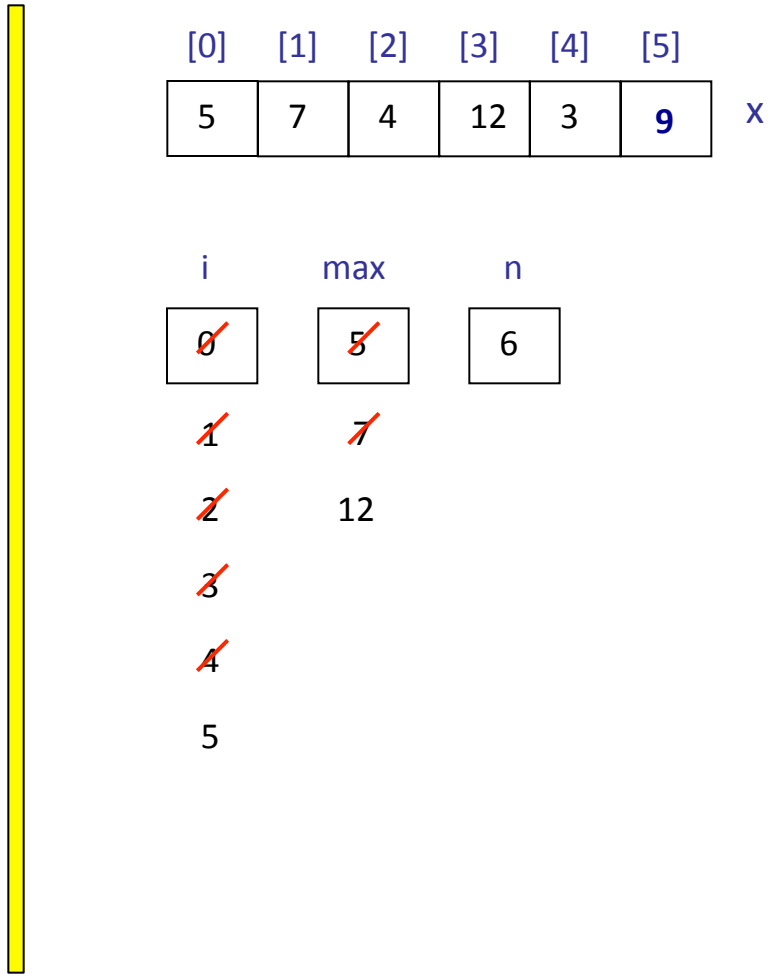

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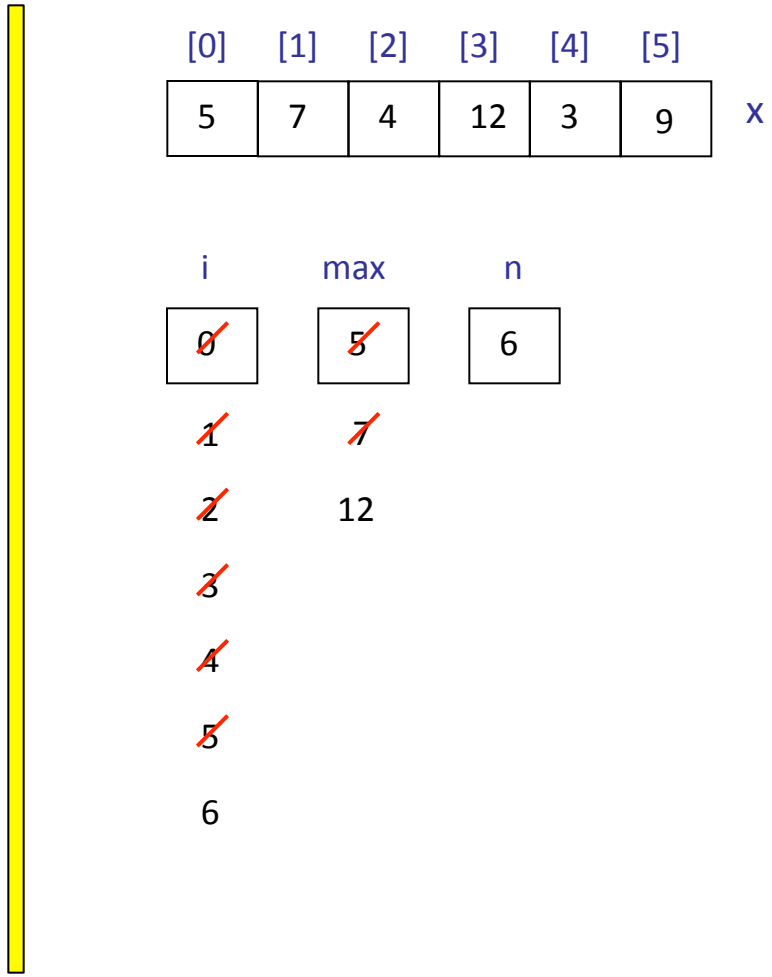

Ανάγνωση και Υπολογισμός Μέσου όρου Σειράς

```
public static void main (String[ ] args)
{
        Scanner input = new Scanner( System.in );
        int x[ ];
        int i, sum=0;
        float average;

        x = new int[6];
        System.out.print("Enter 6 numbers: ”);
        for (i=0; i < 6; i++)
        {
                x[i] = input.nextInt();
                sum = sum+x[i];
        }
        average = sum/6.0;
        System.out.println("Average = " + average);
}
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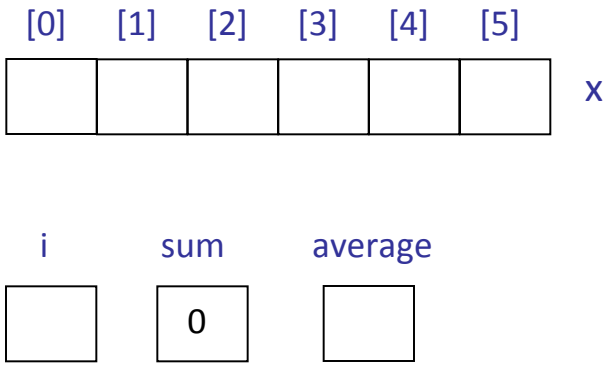

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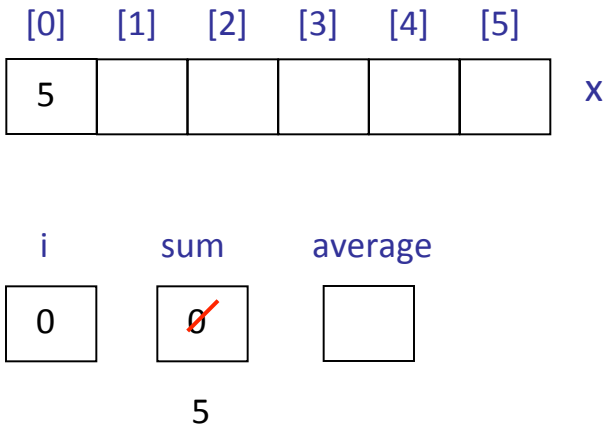

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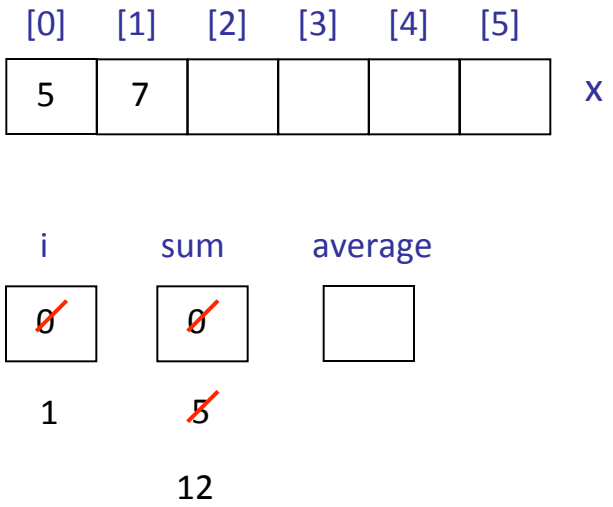

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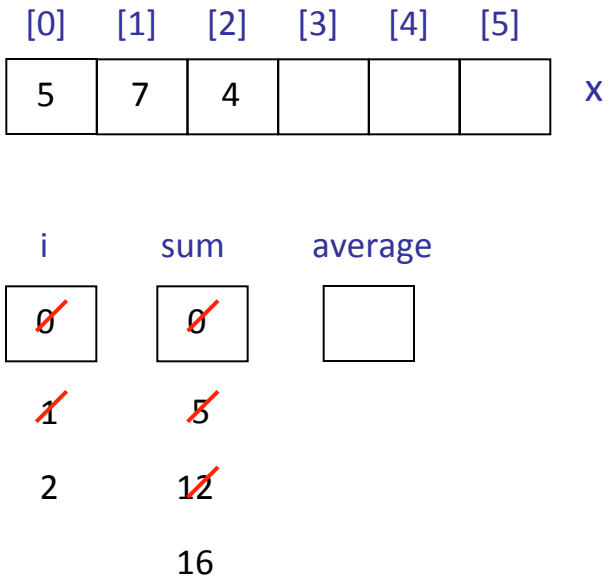

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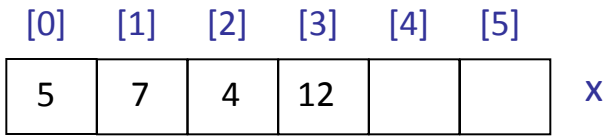

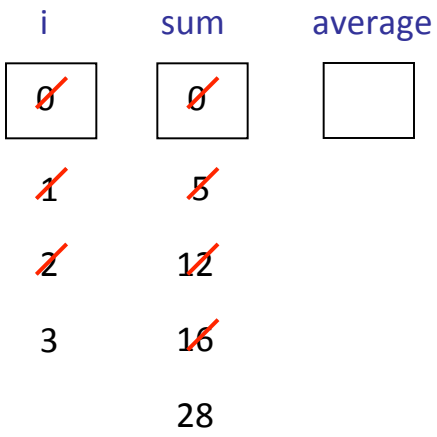

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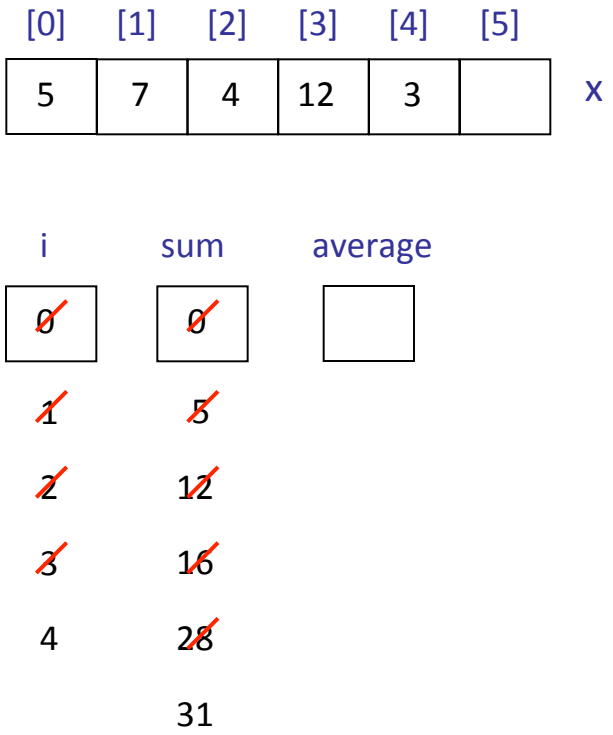

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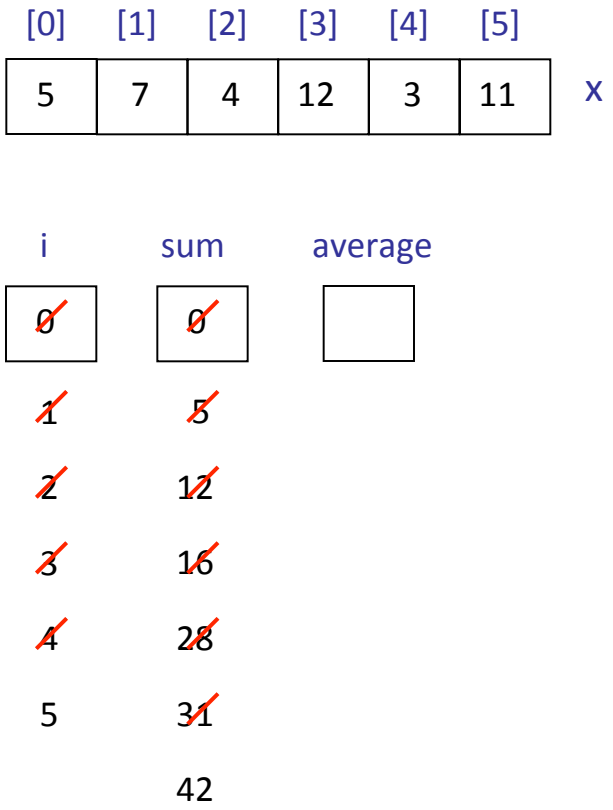

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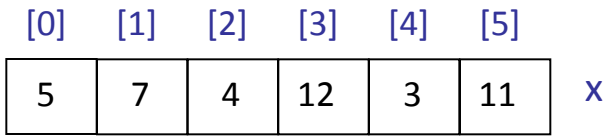

i	sum	average
~~0~~	~~0~~	7.0
~~1~~	~~5~~	
~~2~~	~~12~~	
~~3~~	~~16~~	
~~4~~	~~28~~	
~~5~~	~~31~~	
6	42	

Άσκηση

Γράψτε μια εφαρμογή Java που υπολογίζει αν μια σειρά χαρακτήρων είναι *καρκινική* (δηλ. αν διαβάζεται το ίδιο από αριστερά προς τα δεξιά, και από δεξιά προς τ' αριστερά).

Καρκινική	*Μη-Καρκινική*
absba	abccca
a$$**$$a	$abcCBa$

Άσκηση (Συνέχεια)

```
public static void main(String[ ] args)
  {
     Scanner input = new Scanner( System.in );
char x[];
     int i, n, left, right, found;
     char a;
     String s;


     System.out.print("Δώσε κείμενο: ");
     s = input.nextLine();
     n = s.length();
     x = new char[n];

     for (i=0; i<n; i++)
        x[i] = s.charAt(i);
```

Άσκηση (Συνέχεια)

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```

```
     found = 0;
     left = 0;
     right = n-1;

     while ( left<right)
     {
        if (x[left] != x[right]) found=1;
        left = left+1;
        right = right-1;
     }

     if (found==0)
        System.out.println("Καρκινική γραφή");
     else
        System.out.println("Μη-καρκινική γραφή");
}
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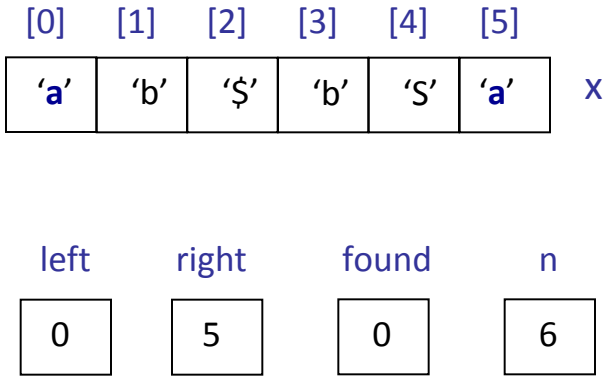
Άσκηση (Συνέχεια)

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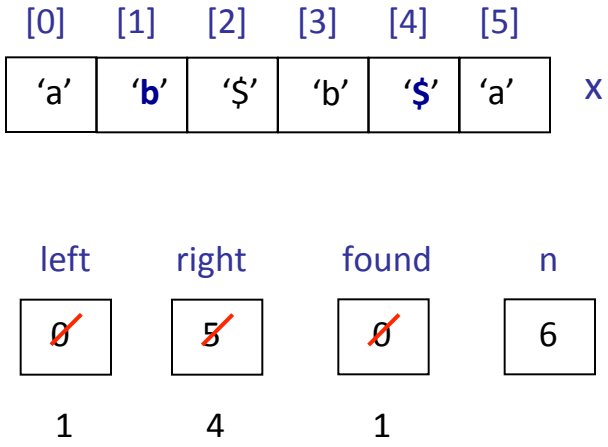


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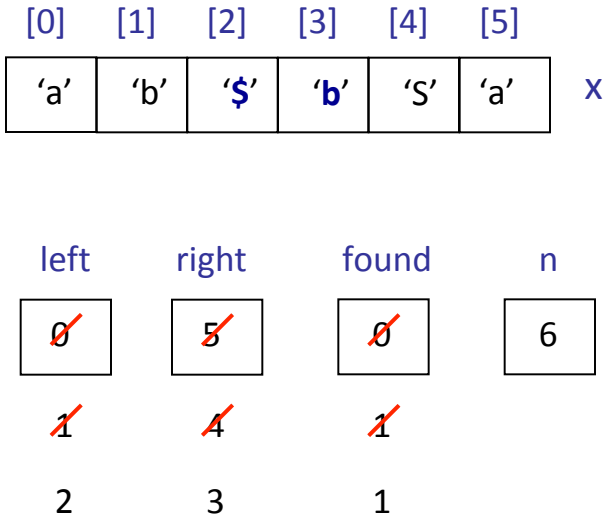


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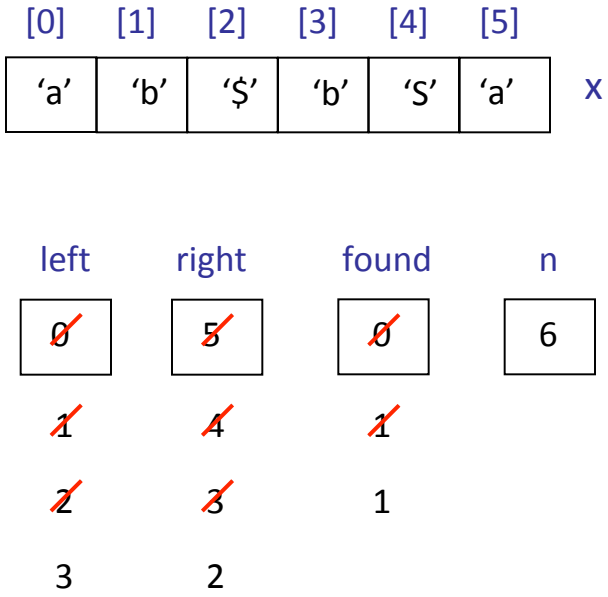


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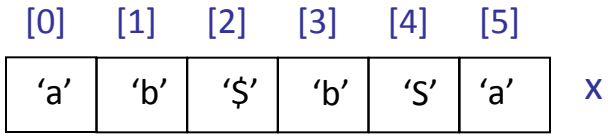

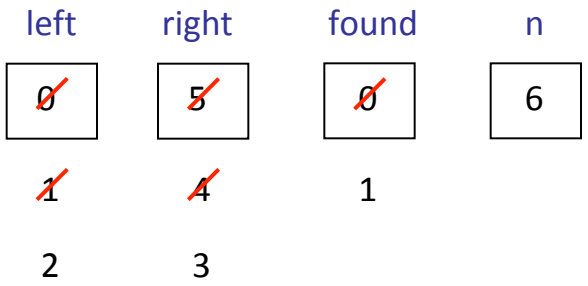

Μη-καρκινική γραφή

```
found = 0;
left = 0;
right = n-1;

while ( ( left<right) && (found == 0) )
{
   if (x[left] != x[right]) found=1;
   left = left+1;
   right = right-1;
}

if (found==0)
   System.out.println("Καρκινική γραφή");
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}
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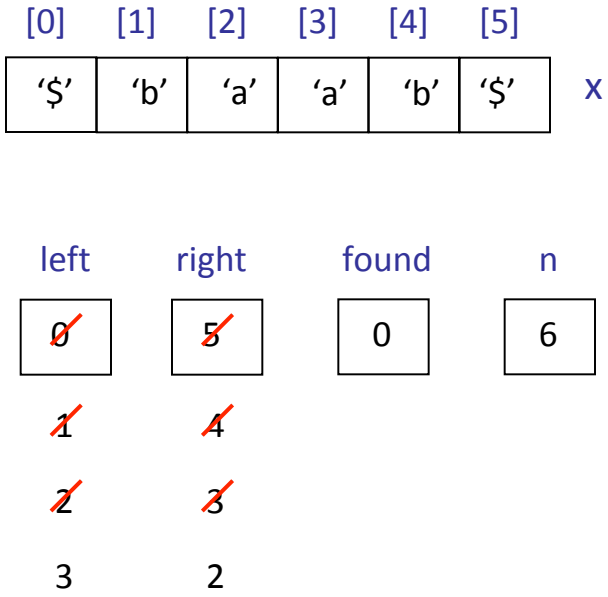
Άσκηση (Συνέχεια)

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Γραμμική Αναζήτηση Πίνακα

ΕΙΣΟΔΟΣ:

target | 11 |

x

1	3	7	9	10	13	17

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x

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public static void main (String[ ] args)
{
        Scanner input = new Scanner( System.in );
        int x[ ];
        int i, pos, target;
        final int n=7;

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

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

        System.out.printf("Enter the target element: ");
        target = input.nextInt();
```

Γραμμική Αναζήτηση Πίνακα

ΕΙΣΟΔΟΣ:

target | 11 |

x

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

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

        System.out.printf("Enter the target element: ");
        target = input.nextInt();

        i = 0;
        pos = -1;

        if (pos == -1)
                System.out.println("Target not found");
        else
                System.out.println("Position = " + pos);
}
```

Γραμμική Αναζήτηση Πίνακα

ΕΙΣΟΔΟΣ:

target | 11 |

x

1	3	7	9	10	13	17

```
public static void main (String[ ] args)
{
        Scanner input = new Scanner( System.in );
        int x[ ];
        int i, pos, target;
        final int n=7;

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

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

        System.out.printf("Enter the target element: ");
        target = input.nextInt();

        i = 0;
        pos = -1;

        while (i < n) && (pos == -1)
        {
                if (x[i] == target)
                        pos = i;
                i++;
        }

        if (pos == -1)
                System.out.println("Target not found");
        else
                System.out.println("Position = " + pos);
}
```