Accesing, modifying and iterating over an array

1. Accesing and modifying an array
2. Length property
3. Iterating over an array

Accesing and modifying an array

1. Accessing and modifying an array

scores

scores[index]

1. Accessing and modifying an array

scores

index: 0 … length-1

scores[index]

No valid index

```
float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};
System.out.println(scores[50]);
```

Execution error:
IndexOutOfBoundsException

1. Accessing and modifying an array

It is not possible to manipulate an array using the array identifier directly

```
int[] a = {10,20,30,40,50};
int[] b = {60,70,80,90,100};
int[] c = a + b;
```

Access to each element is necessary

Accesing an array

```
float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};
System.out.println(scores[1]);
//Prints: 5.0
```

¿Qué instrucción usarías para mostrar el último elemento del array?

```
float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};
//insert code here
```

¿Qué instrucción usarías para mostrar el último elemento del array?

```
float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};
System.out.println(scores[4]);
```

¿Qué instrucción usarías para mostrar el último elemento del array?

```
float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};
System.out.println(scores[5]);
```

1. Accessing and modifying an array

¿Cual será el valor de s?

```
double[] numeros= {4.0,6.2,3.75,5.1,9.99};
double s = numeros[0] + numeros[3]
```

a. 4.0

b. 9.1

c. 9.99

d. 5.1

1. Accessing and modifying an array

¿Cual será el valor de s?

```
double[] numeros= {4.0,6.2,3.75,5.1,9.99};
double s = numeros[0] + numeros[3]
```

a. 4.0

b. 9.1 //= 4.0 + 5.1

c. 9.99

d. 5.1

Modifying an array

```
float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};
scores[1] = 9.99f;
```

Assignment operators:
=, +=, -=, *=, /=
++, --

Modifying an array

```
float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};
scores[1] = 9.99f;
System.out.println(scores[1]);
//Prints: 9.99
```

1. Accessing and modifying an array

¿Cual será el valor de la primera posición de array?

```
int[] array= new int[5];
array[0]++;
array[0]*=5
array[1]+=2;
```

a. 0

b. 1

c. 5

d. 7

¿Cual será el valor de la primera posición de array?

```
int[] array= new int[5];
array[0]++; //1
array[0]*=5 //5
array[1]+=2;
```

a. 0

b. 1

c. 5 // 0 + 1 = 1 -> 1*5 = 5

d. 7

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Length property

2. Length property

scores

scores[index]

index: 0 … length-1

2. Length property

```
float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};
int longitud = scores.length; //5
```

2. Length property

scores

index: 0 … scores.length-1

scores[index]

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float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};
int posicion= //valor introducido por el usuario
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if ( (posicion>=0) && (posicion<scores.length) ){
        System.out.println(scores[posicion]);
}else{
    System.out.println("La posición introducida no existe");
}
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Iterating over an array

3. Iterating over an array

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float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};
System.out.println(scores[1]);
//Prints: 5.0
```

3. Iterating over an array

```
float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};
System.out.println(scores[0]);
System.out.println(scores[1]);
...
System.out.println(scores[4]);
```

3. Iterating over an array

```
float[] scores = {7.5f,5.0f,8.5f,6.0f,4.0f};

for ( loop counter ; loop condition ; loop increment) {
 //code block
 // will execute as long as loop condition is true
}
//more code
```

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for (int i=0; i<scores.length; i++) {
   System.out.println( scores[i] );
}
//more code
```

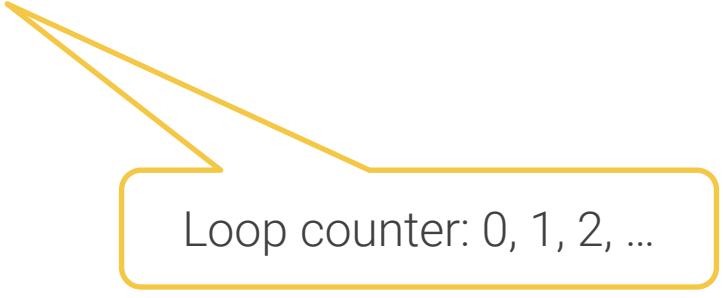

3. Iterating over an array

```
for (int i=0; i<scores.length; i++) {
   System.out.println( scores[i] );
}
```

FOR

```
int i=0;

while(i<scores.length){
   System.out.println(scores[i]);
   i++;
}
```

WHILE

“El estudio sin deseo estropea la memoria y no retiene nada de lo que toma “

Leonardo Da Vinci