



# Lenguaje de marcas

Tarea 6

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## Contenido

Ejercicio 1. ....	2
Ejercicio 2. ....	3
Ejercicio 3. ....	4
Ejercicio 4. ....	5
Ejercicio 5. ....	6
Ejercicio 6. ....	6
Ejercicio 7. ....	7
Ejercicio 8. ....	8
Ejercicio 9. ....	9
Ejercicio 10. ....	10

A partir del fichero [biblioteca.xml](#) deberás realizar los siguientes ejercicios de **XQuery** para obtener información relevante a partir de los datos almacenados en el fichero xml de origen. Deberás generar las consultas y probarlas tal y como se especifica en el **Apartado 2. Información de interés**, en el que se detalla cómo deberás realizar la entrega.

### Ejercicio 1. *Obtener el nombre de la biblioteca*

(: Obtener todos los títulos de los libros del fichero libros.xml junto con los autores de cada libro. Usando solo la cláusula for:)

```
for $b in doc ("biblioteca.xml")/library/data
```

```
return concat ("El nombre de la biblioteca es """, $b/name, """)
```

The screenshot shows the BaseX 10.7 XQuery editor interface. The left pane displays a file explorer with a folder named 'tarea 6' containing several XML files, including 'biblioteca.xml' (4356 b) and 'ejercicio 1.xq' (1513 b). The main editor pane shows the following XQuery code:

```
1 (: Obtener el nombre de la biblioteca :)  
2 for $b in doc ("biblioteca.xml")/  
  library/data  
3 return concat ("El nombre de la biblioteca es """, $b/name, """)
```

The right pane shows the result of the query: '1 Result, 51 b' and 'El nombre de la biblioteca es "Libros segunda mano"'. The status bar at the bottom indicates 'Time required: 55.81 ms' and '76 MB'.

On the right side of the image, there is a user profile dropdown menu for 'Manjón Carrasco, José Carlos' with options: Accessibility, Profile, Grades, Messages, Private files, Preferences, and Log out. Below this, a partial view of a 'plataforma de' is visible.

**Ejercicio 2.** Encontrar todos los libros publicados después de **2010**. Deberás mostrar la información de la siguiente forma:

<book>

<title>Título del libro</title>

<year>Año de publicación</year>

</book>

(:Encontrar todos los libros publicados después de 2010:)

for \$b in doc ("biblioteca.xml")//library/catalog/book

where \$b/year > 2010

return

<book>

{ \$b/title, \$b/year }

</book>

The screenshot shows the BaseX 10.7 application window. The title bar indicates the file path: C:/Users/JCMCarra/OneDrive - Unit4/Módulo/linguaje de marcas/tarea 6/ejercicio 2.xq - BaseX 10.7. The interface includes a menu bar (Database, Editor, View, Visualization, Options, Help), a toolbar, and a Command window. The left sidebar shows a file explorer with a tree view containing 'tarea 6' and several XML files, including 'ejercicio 2.xq' which is selected. The main Editor window displays the following XQuery code:

```
1 (:Encontrar todos los libros
2 publicados después de 2010:)
3 for $b in doc ("biblioteca.xml")//
4 library/catalog/book
5 where $b/year > 2010
6 return
7   <book>
8     { $b/title, $b/year }
9   </book>
```

The right pane shows the results of the query, titled '4 Results, 332 b'. It displays four XML elements, each representing a book:

```
<book>
  <title lang="en">IT</title>
  <year>2017</year>
</book>
<book>
  <title lang="en">Joyland</title>
  <year>2014</year>
</book>
<book>
  <title lang="es">Drácula (Clásicos ilustrados)</title>
  <year>2018</year>
</book>
<book>
  <title lang="es">Trilogía de la Fundación</title>
  <year>2022</year>
</book>
```

On the far right, a user profile sidebar is visible for 'Manjón Carrasco, José Carlos', with links to Accessibility, Profile, Grades, Messages, Private files, Preferences, and Log out. At the bottom of the BaseX window, a status bar shows 'Time required: 5.69 ms' and '153 MB'.

### Ejercicio 3. Obtener el nombre de los autores de los libros de **terror**

(:Obtener el nombre de los autores de los libros de terror:)

distinct-values(

for \$b in doc("biblioteca.xml")//book

where \$b/@category = 'horror'

for \$c in \$b/authors/author

return concat ("Es autor de libros de terror ", \$c))

The screenshot shows the BaseX 10.7 application window. The title bar indicates the file path: C:\Users\JCMCarra\OneDrive - Unit4\Módulo\lenguaje de marcas\tarea 6\ejercicio 3.xq - BaseX 10.7. The interface is divided into several panes:

- Command:** Contains the XQuery query:

```
1 (:Obtener el nombre de los autores de los libros de terror:)
2
3 distinct-values(
4   for $b in doc("biblioteca.xml")//
5     book
6     where $b/@category = 'horror'
7     for $c in $b/authors/author
8     return concat ("Es autor de libros
9                   de terror ", $c)
10 )
```
- Editor:** Shows the file explorer on the left with a tree view containing files like 'biblioteca.xml', 'ejercicio 1.xq', etc. The main editor area shows the query code.
- Result:** Displays the output of the query: '1 Result, 41 b' and 'Es autor de libros de terror Stephen King'.
- Right Panel:** A sidebar with a user profile for 'Manjón Carrasco, José Carlos' and a list of navigation links: Accessibility, Profile, Grades, Messages, Private files, Preferences, and Log out.

At the bottom of the window, a status bar shows 'Time required: 5.14 ms' and '156 MB'.

**Ejercicio 4.** Obtener información sobre los cursos impartidos en **enero de 2024** con el siguiente formato (se tendrán que concatenar los campos adecuados para obtener la fecha):

```
<course>
  <title>Título del libro</title>
  <date>Fecha del curso (en el formato día/mes/año)</date>
</course>
```

```
for $c in doc("biblioteca.xml")//library/courses/course
```

```
where $c/date/year = 2024 and $c/date/month = 1
```

```
return
```

```
<course>
```

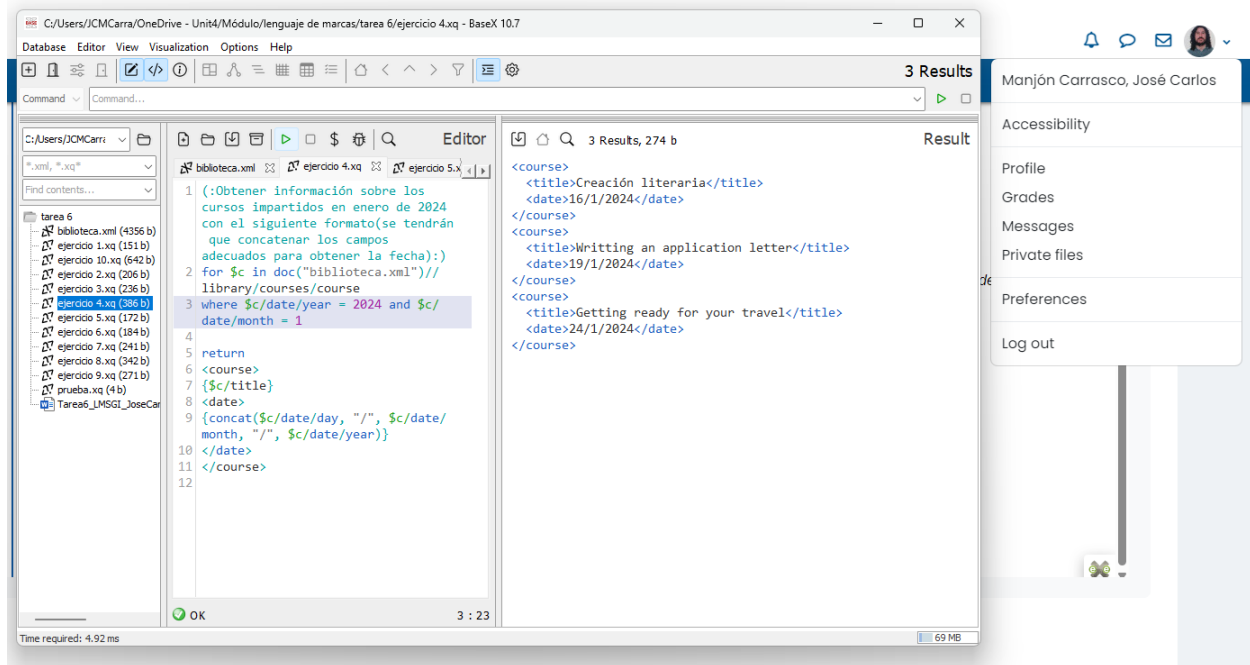
```
{ $c/title }
```

```
<date>
```

```
{ concat($c/date/day, "/", $c/date/month, "/", $c/date/year) }
```

```
</date>
```

```
</course>
```



## Ejercicio 5. Obtener un listado de los libros en **orden alfabético**

```
for $b in doc("biblioteca.xml")//catalog/book
```

```
order by $b/title ascending
```

```
return <libro>{$b/title}</libro>
```

The screenshot shows the BaseX 10.7 interface. The editor window displays the following XQuery code:

```
1 (:Obtener un listado de los libros en  
2 orden alfabético:)  
3 for $b in doc("biblioteca.xml")//  
4 catalog/book  
5 order by $b/title ascending  
6 return <libro>{$b/title}</libro>
```

The result pane shows 7 results, each an XML element representing a book:

```
<libro>  
  <title lang="es">Drácula (Clásicos ilustrados)</title>  
</libro>  
<libro>  
  <title lang="en">Harry Potter and the Philosopher's Stone</title>  
</libro>  
<libro>  
  <title lang="en">IT</title>  
</libro>  
<libro>  
  <title lang="en">Joyland</title>  
</libro>  
<libro>  
  <title lang="en">Learning XML</title>  
</libro>  
<libro>  
  <title lang="es">Trilogía de la Fundación</title>  
</libro>  
<libro>  
  <title lang="en">XQuery Kick Start</title>  
</libro>
```

The interface also shows a file explorer on the left with a list of files including 'biblioteca.xml' and 'ejercicio 5.xq'. The status bar at the bottom indicates 'Time required: 5.79 ms'.

## Ejercicio 6. Encontrar el libro **más caro** del catálogo

```
let $c := max(doc("biblioteca.xml")//catalog/book/price)
```

```
return concat ("El precio del libro mas alto es de ",$c,"€")
```

The screenshot shows the BaseX 10.7 interface. The editor window displays the following XQuery code:

```
1 (:Obtener un listado de los libros en  
2 orden alfabético:)  
3 let $c := max(doc("biblioteca.xml")//  
4 catalog/book/price)  
5 return concat ("El precio del libro  
6 mas alto es de ",$c,"€")
```

The result pane shows 1 result, a concatenated string:

```
El precio del libro mas alto es de 49.99€
```

The interface also shows a file explorer on the left with a list of files including 'biblioteca.xml' and 'ejercicio 6.xq'. The status bar at the bottom indicates 'Time required: 7.5 ms'.

## Ejercicio 7. Encontrar todos los cursos impartidos por un **profesor específico**

```
for $b in doc ("biblioteca.xml")//courses/course
```

```
where $b/teachers/teacher='Luis del Moral'
```

```
return concat ("El curso """, $b/title, "" es impartido por Luis del Moral")
```

The screenshot shows the BaseX 10.7 application window. The title bar indicates the file path: C:/Users/JCMCarra/OneDrive - Unit4/Módulo/linguaje de marcas/tarea 6/ejercicio 7.xq - BaseX 10.7. The menu bar includes Database, Editor, View, Visualization, Options, and Help. The toolbar contains various icons for file operations and execution. The left sidebar shows a file explorer with a tree view containing 'tarea 6' and several 'ejercicio' files. The main editor area displays the XQuery code for finding courses by a specific teacher. The right pane shows the execution result, which is a single string: 'El curso "Creación literaria" es impartido por Luis del Moral'. A user profile menu is open on the right side of the window, showing the user's name 'Manjón Carrasco, José Carlos' and various options like Accessibility, Profile, Grades, Messages, Private files, Preferences, and Log out.

Command: Command...

1 Result

Result

1 Result, 62 b

El curso "Creación literaria" es impartido por Luis del Moral

Time required: 5.41 ms

112 MB



## Ejercicio 8. Obtener el nombre de todos los libros, junto con el autor y el género, ordenados **alfabéticamente** por género

```
for $b in doc("biblioteca.xml")//book
```

```
let $cb := $b/@category
```

```
order by $cb
```

```
return
```

```
<libro>

{

  $b/title,

  $b/authors,

  <genre>{concat("", $cb)}</genre>

}

</libro>
```

The screenshot displays the BaseX 10.7 application window. The left sidebar shows a file explorer with a tree view containing files like 'biblioteca.xml' and 'ejercicio 8.xq'. The main editor area shows the XQuery script from the previous blocks. The right pane, titled '7 Results', displays the output of the query, which is an XML document containing 7 book entries. Each entry is a <libro> element with <title>, <authors>, and <genre> sub-elements. The books are ordered alphabetically by genre. The bottom status bar indicates 'Time required: 4.41 ms' and '157 MB'.

Manjón Carrasco, José Carlos

- Accessibility
- Profile
- Grades
- Messages
- Private files
- Preferences
- Log out

worked on:

todos de almacenamiento de la información usada en documentos XML :-

## Ejercicio 9. Obtener el precio medio de todos los libros de **tapa dura**

```
let $precio := round(avg(doc("biblioteca.xml")//catalog/book/price),2)
```

```
let $c := doc("biblioteca.xml")//catalog/book
```

```
where $c/edition='hardcover'
```

```
return concat ("El precio medio es de ", $precio , "€")
```

The screenshot shows the BaseX 10.7 application window. The title bar indicates the file path: C:/Users/JCMCarra/OneDrive - Unit4/Módulo/ lenguaje de marcas/tarea 6/ejercicio 9.xq - BaseX 10.7. The interface includes a menu bar (Database, Editor, View, Visualization, Options, Help), a toolbar, and a Command window. The left sidebar shows a file explorer with a folder named 'tarea 6' containing several XML files, with 'ejercicio 9.xq' selected. The main editor window displays the XQuery code from the previous blocks. The right pane shows the result of the query: '1 Result, 30 b' and 'El precio medio es de 25.36€'. A user profile dropdown menu is open on the right, showing the user 'Manjón Carrasco, José Carlos' and options for Accessibility, Profile, Grades, Messages, Private files, Preferences, and Log out.

## Ejercicio 10. Encuentra los libros **mas caros** de cada categoría y muestra su **categoría**, el **título**, el **precio** y el **autor**

(:Buscamos en los nodulos book el atributo category , pero no repetimos los atributos:)

for \$categoria in distinct-values(doc("biblioteca.xml"))/book/@category)

(:Declaramos la variable precio máximo en la ruta /book/price para aquellos nodulos book:)

let \$precioMaximo := max(doc("biblioteca.xml"))/book[@category=\$categoria]/price)

return

<libro>

<categoria>{\$categoria}</categoria>

{

for \$b in doc("biblioteca.xml")/book

where \$b/@category = \$categoria and \$b/price = \$precioMaximo

return \$b}

</libro>

The screenshot displays a software development environment with three main components:

- Editor:** Contains an XQuery script for finding the most expensive book in each category. The script uses `distinct-values` to iterate over categories, `max` to find the highest price, and a `for` loop to return the book details.
- Results Panel:** Shows 4 results for the query. The results are XML fragments for books in the 'adventures', 'horror', 'science-fiction', and 'software-development' categories, including details like title, year, price, pages, edition, and author.
- Browser:** Displays the 'FORMACIÓN PROFESIONAL' dashboard. The 'Course' tab is active, showing details for 'Manjón Carrasco, José Carlos'. A sidebar menu includes options like 'Accessibility', 'Profile', 'Grades', 'Messages', 'Private files', 'Preferences', and 'Log out'.