# JS Advanced: Exam 15 July 2018

# Problem 3. Book Collection

Write a **JavaScript class** BookCollection which holds a list containing shelf information **(shelfGenre, room, shelfCapacity).**

|  |
| --- |
| **class** BookCollection {  *//* ***TODO: implement this class*** } |

Each **BookCollection** is located in specific room, on a shelf with defined capacity and shelf name. Implement the following features:

* **Constructor** – It should contain the following properties – room(String), shelfGenre(String), shelf(an array), shelfCapacity(Number). If the room is: "livingRoom" or "bedRoom" or "closet", create the shelf’s genre, room and shelf capacity. If it **is** **not,** throw "Cannot have book shelf in {room's name}". Shelf capacity will always be a valid positive number.
* Method addBook(bookName, bookAuthor, genre) – adds book to the shelf only if there’s enough space in the shelf. If the shelf is full, remove the **first** book to make space for the **new** one. **The genre is optional**. In the end, **sort** our shelf **alphabetically** by **book author’s name**.
* Method **throwAwayBook(bookName) – removes** a book from the shelf by the given name.
* Method **showBooks(genre) –** returns all books by the given genre. You should return a string with the following information:

|  |
| --- |
| “Results for search "{genre}":”  “\uD83D\uDCD6 {bookAuthor} – "{bookName}"”  … |

* Accessor property shelfCondition – returns the **count** of **free slots** left in the shelf.
* Method toString() – returns the **text** **representation** of the shelf in the following format:
  + Empty shelf:

|  |
| --- |
| “It's an empty shelf” |

* + Non-empty shelf:

|  |
| --- |
| “"{shelfGenre}" shelf in {room} contains:”  “\uD83D\uDCD6 "{bookName}" – {bookAuthor}”  … |

### Examples

This is an example of how the BookCollection class is **intended to be used**:

|  |
| --- |
| Sample code usage |
| **let *livingRoom*** = **new** BookCollection(**"Programming"**, **"livingRoom"**, 5)  .addBook(**"Introduction to Programming with C#"**, **"Svetlin Nakov"**)  .addBook(**"Introduction to Programming with Java"**, **"Svetlin Nakov"**)  .addBook(**"Programming for .NET Framework"**, **"Svetlin Nakov"**); ***console***.log(***livingRoom***.toString()); |

|  |
| --- |
| Corresponding output |
| "Programming" shelf in livingRoom contains:  📖 "Introduction to Programming with C#" - Svetlin Nakov  📖 "Introduction to Programming with Java" - Svetlin Nakov  📖 "Programming for .NET Framework" - Svetlin Nakov |

|  |
| --- |
| Sample code usage |
| **let *garden*** = **new** BookCollection(**"Programming"**, **"garden"**); |
| Corresponding output |
| "Cannot have book shelf in garden" |

|  |
| --- |
| Sample code usage |
| **let *bedRoom*** = **new** BookCollection(**'Mixed'**, **'bedRoom'**, 5); ***bedRoom***.addBook(**"John Adams"**, **"David McCullough"**, **"history"**); ***bedRoom***.addBook(**"The Guns of August"**, **"Cuentos para pensar"**, **"history"**); ***bedRoom***.addBook(**"Atlas of Remote Islands"**, **"Judith Schalansky"**); ***bedRoom***.addBook(**"Paddle-to-the-Sea"**, **"Holling Clancy Holling"**); ***console***.log(**"Shelf's capacity: "** + ***bedRoom***.shelfCondition); ***console***.log(***bedRoom***.showBooks(**"history"**)); |
| Corresponding output |
| Shelf's capacity: 1  Results for search "history":  📖 Cuentos para pensar - "The Guns of August"  📖 David McCullough - "John Adams" |

### Submission

Submit your class BookCollection as “**JavaScript code**”.

### Notes

Use the following Unicode for visualizing the book icon: **"\uD83D\uDCD6".**

**No invalid input will be given.**