

The pseudocode I have written is a mix of C++ and python syntaxes. The lines, which begin with hashtags and are underlined are comments.

Solution:

```
SET libraryBooks TO [book1, book2, book3, book4, book5, book 6, book7, book8, book9, book10]
```

We start by creating an array, containing all books available in the library. The books shown in this pseudocode would be objects, with all the necessary attributes: bookTitle, quantityAvailable, etc..

```
message1 = "We found the book you are looking for. Enjoy it."
```

```
message2 = "We are sorry, the book you are looking for is currently out of stock. You could try again in a few days."
```

```
message3 = "We do not have the book you are looking for in our library."
```

Here we predefine the different outputs, our program can give to a future search, made by a client.

```
totalBooks = len(libraryBooks)
```

We get the total number of books (as titles) available in the library - length of the array.

```
for (int j=0, totalBooks, j++):
```

```
    currentBook = libraryBooks[j]
```

```
    print(currentBook.bookTitle)
```

```
    print(currentBook.quantityAvailable)
```

Here we use a FOR loop to iterate through the array, which contains all books (as titles). "j" represents the index of the "currentBook" within the array "libraryBooks". And then it prints/shows the title of the "currentBook" and it's "quantityAvailable". The loop iterates and shows all books in existence, so the client can choose, which one to pick.

```
userInput = input()
```

This line of code takes input from the user. The library's client must type the title of the book, he would like to obtain.

index = 0

bookFound = False

Here we set a counter to 0, which keeps track of how many book titles (in the "libraryBooks array") we will have pass through in each iteration of the while loop, so as not to create an error, by trying to access an index in the array, which does not exist. Additionally, the counter serves as a tool to access the different books in the array as it can be used as an index. Furthermore, we create a flag "bookFound". It is preset to False, assuming we the book we are searching for does not exist. If during the iterations, the book is found the flag will change its value to True. This will in turn impact the result of the program.

while index < totalBooks:

currentBook = libraryBooks[index]

index++

if userInput == currentBook.title:

bookFound = True

if currentBook.quantityAvailable > 0:

print(message1)

currentBook.quantityAvailable --

else:

print(message2)

break

if bookFound == False:

print(message3)

Here we use a while loop to go through all books in the array and search for the one we need. In the beginning of each iteration, we value of the index is increased by 1, as to allow us to get to the next book, during the next iteration and not to get into an infinite loop or out of range error. We do so, by comparing the title entered by our client, with the titles of each book, registered in the array. If during an iteration we find a match, first we change the value of the boolean variable "bookFound" to True and then we enter in the nested (second) if statement. There we check if we have available copies of the book we are looking for, by making sure "quantityAvailable" is bigger than zero. If so, the system prints a message that we have found the book and can give it and decreases the quantity of available books (from this title) by one, so we can keep up to date information. If the quantity is zero, a message is printed that there are no available books from this title. Disregarding the quantities, after a message has been printed , a break command is executed. Its purpose is to stop the loop, as it has achieved its purpose and there is no longer need for it. Finally, after the while loop, a last if statement is placed. It checks if the variable

“bookFound” still has the value False. If so, it would mean that the book requested by the library’s client is not part of the array (does not exist in the library) and a message, informing the user of that, is printed.