

Library management system

November 5, 2024

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[1]: """6. Library Management System
Concepts: Dictionaries, loops, basic OOP (classes)
Task: Build a library system where users can check in and check out books.
Goal: Create a basic class structure, manage book availability with
↳dictionaries, and use conditionals."""
```

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[1]: '6. Library Management System\nConcepts: Dictionaries, loops, basic OOP
(classes)\nTask: Build a library system where users can check in and check out
books.\nGoal: Create a basic class structure, manage book availability with
dictionaries, and use conditionals.'
```

```
[40]: class Library:
    def __init__(self, books):
        self.books = {book: True for book in books}

    def dis_books(self):
        print("Available book in library")
        for book, available in self.books.items():
            status = "Available" if available else "Checked out"
            print(f"{book}: {status}")

    def check_out(self, book):
        if book in self.books:
            if self.books[book]:
                self.books[book] = False
                print(f"you have checked out the {book}, please return it,
↳whenever you've done.")
            else:
                print(f"{book} is currently checked out")
        else:
            print(f"Sorry, {book} is not available in our library")

    def return_book(self, book):
        if book in self.books:
            if not self.books[book]:
```

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        self.books[book] = True
        print(f"{book} is added to library")
    else:
        print(f"{book} is already Available")

else:
    print(f"{book} is not belonging to our library")

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[41]: library = Library(["Python book", "Data Science", "Data analyst"])
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```
[42]: library.dis_books()
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Available book in library
 Python book: Available
 Data Science: Available
 Data analyst: Available

```
[43]: library.return_book("Science Class10th")
```

Science Class10th is not belonging to our library

```
[44]: library.check_out("Science Class10th")
```

Sorry, Science Class10th is not available in our library

```
[45]: library.check_out("Python book")
```

you have checked out the Python book, please return it whenever you've done.

```
[46]: library.dis_books()
```

Available book in library
 Python book: Checked out
 Data Science: Available
 Data analyst: Available

```
[47]: library.return_book("Python book")
```

Python book is added to library

```
[48]: library.dis_books()
```

Available book in library
 Python book: Available
 Data Science: Available
 Data analyst: Available