Bookstore Inventory System

Design Document

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# Overview

This document will collect detailed method definition tables for each of the methods contained in each class in the Book Inventory System (BIS). These classes and methods were defined in the Analysis Document.

# Controller Class

## addBookRecord()

|  |  |
| --- | --- |
| Method Name | addBookRecord() |
| Return Type | Void |
| Input Arguments | Isbn, authors, title, edition, format, coverPrice, storePrice, stock |
| Output Arguments | None |
| Error Messages | ISBN conflicts with an existing record   * ERROR: Record already exists.   Invalid ISBN   * ERROR: Invalid ISBN format. ISBN should be numerical and exactly 10 or 13 digits in length.   Invalid Data for Cover Price   * ERROR: Invalid Cover Price format. Cover Price must be a positive value with two decimal places.   Invalid Data for Store Price   * ERROR: Invalid Store Price format. Store Price must be a positive value with two decimal places.   Invalid Data for Stock Quantity   * ERROR: Invalid Stock Quantity format. Stock Quantity must be >= 0. |
| Files Accessed | None |
| Files Changed | None |
| Methods Invoked | searchRecord() |
| Narrative | Method adds a book record with a specified ISBN and associated information. It throws an error if the ISBN is invalid or already in use, or if the cover price, store price, or stock quantity are invalid format. |

## addCustomerRecord()

|  |  |
| --- | --- |
| Method Name | addCustomerRecord() |
| Return Type | Void |
| Input Arguments | firstName, lastName, bizName, address, telephone, email |
| Output Arguments | None |
| Error Messages | None |
| Files Accessed | None |
| Files Changed | None |
| Methods Invoked | None |
| Narrative | Method adds a customer record with an automatically generated customer number and associated data. |

## addEmployeeRecord()

|  |  |
| --- | --- |
| Method Name | addEmployeeRecord() |
| Return Type | Void |
| Input Arguments | firstName, lastName, address, telephone, email |
| Output Arguments | None |
| Error Messages | None |
| Files Accessed | None |
| Files Changed | None |
| Methods Invoked | None |
| Narrative | Method adds an employee record with an automatically generated employee number and associated data. |

## addOrderRecord()

|  |  |
| --- | --- |
| Method Name | addOrderRecord() |
| Return Type | Void |
| Input Arguments | Contents, employeeNumber, customerNumber |
| Output Arguments | subTotal, tax, total |
| Error Messages | Invalid Employee Number   * ERROR: Employee number not found or invalid format. Format should be a ten-digit number.   Invalid ISBN for Book in Order Contents   * ERROR: ISBN not found or invalid format. Format should be a 10 or 13 digit number.   Invalid Customer Number   * ERROR: Customer number not found or invalid format. Format should be a ten-digit number.   Insufficient Stock for Book in Order Contents   * ERROR: Insufficient stock found for ISBN [ISBN]. |
| Files Accessed | None |
| Files Changed | None |
| Methods Invoked | searchRecord() |
| Narrative | Method adds an order record with an automatically generated order number and associated data. It verifies validity of employee number, each ISBN in the contents, and the customer number (if applicable). It also verifies that there is sufficient stock for each book in the order contents. |

## searchRecord()

|  |  |
| --- | --- |
| Method Name | addEmployeeRecord() |
| Return Type | Void |
| Input Arguments | targetID, recordType |
| Output Arguments | resultID |
| Error Messages | Record Not Found   * ERROR: No record found with that ID. |
| Files Accessed | None |
| Files Changed | None |
| Methods Invoked | None |
| Narrative | Method searches all records of a given record type for a specified key data member called “targetID.” It then returns that records key data member as “resultID,” or it returns a string of 10 0’s if the record was not found. |

## adjustBookRecord()

|  |  |
| --- | --- |
| Method Name | adjustBookRecord() |
| Return Type | Void |
| Input Arguments | ISBN, fieldName, fieldValue |
| Output Arguments | None |
| Error Messages | Record Not Found   * ERROR: No record found with that ID. |
| Files Accessed | None |
| Files Changed | None |
| Methods Invoked | None |
| Narrative | Method searches all book records for one with a matching ISBN. Once located, it sets the property specified by fieldName to the value specified by fieldValue. |

## adjustCustomerRecord()

## adjustEmployeeRecord()

## adjustOrderRecord()

## removeBookRecord()

## removeCustomerRecord()

## removeEmployeeRecord()

## removeOrderRecord

## listAllBooks()

## listAllCustomers()

## listAllEmployees()

## listAllOrders()