

#### Model Class

Manager()

#### **G** User kr.ac.kopo.model a id: String password: String name: String birth: String email: String phoneNumber: String User() User(id: String, password: String) & User(id: String, password: String, name: String, birth: String, email: String, phoneNumber: String) getId(): String setId(id: String): void getPassword(): String setPassword(password: String): void getName(): String setName(name: String): void getBirth(): String setBirth(birth: String): void getEmail(): String setEmail(email: String): void getPhoneNumber(): String setPhoneNumber(phoneNumber: String): void toString(): String • Manager

### kr.ac.kopo.model Manager(id: String, password: String, name: String, birth: String, email: String, phoneNumber: String)

#### Book

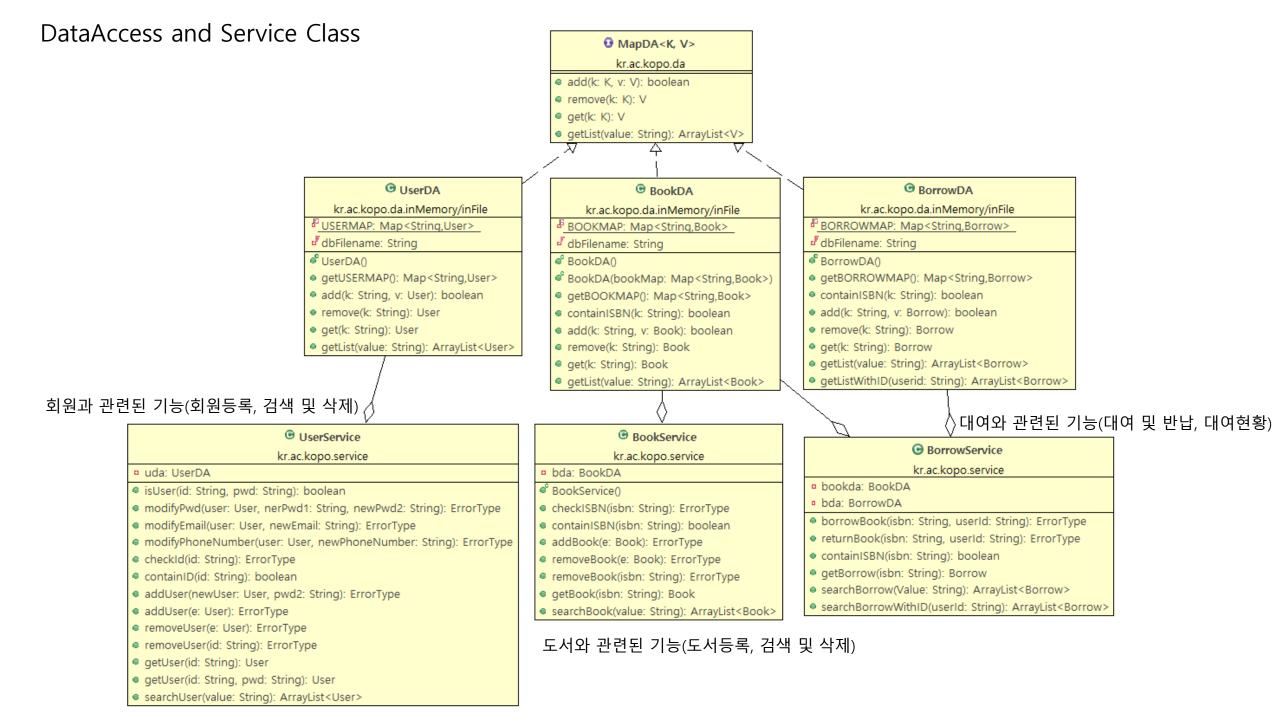
#### kr.ac.kopo.model

- isbn: String
- u title: String
- author: String
- publisher: String a isBorrow: boolean
- Book()
- getIsbn(): String
- setIsbn(isbn: String): void
- getTitle(): String
- setTitle(title: String): void
- getAuthor(): String
- setAuthor(author: String): void
- getPublisher(): String
- setPublisher(publisher: String): void
- isBorrow(): boolean
- setBorrow(isBorrow: boolean): void
- toString(): String

#### Borrow

#### kr.ac.kopo.model

- isbn: String
- title: String
- userId: String
- borrowDate: Date
- returnDate: Date
- & Borrow(isbn: String, title: String, userId: String, borrowDate: Date, returnDate: Date)
- getIsbn(): String
- setIsbn(isbn: String): void
- getUserId(): String
- setUserId(userId: String): void
- getBorrowDate(): Date
- setBorrowDate(borrowDate: Date): void
- getReturnDate(): Date
- setReturnDate(returnDate: Date): void
- getTitle(): String
- setTitle(title: String): void
- toString(): String



#### DataAccess and Service Class

```
각 Service의 impor만 바꿔주면 inMemory, inFile 스위치 가능
- UserService Class
 5 //import kr.ac.kopo.da.inMemory.UserDA;
 6 import kr.ac.kopo.da.inFile.UserDA;
- BookService Class
5 //import kr.ac.kopo.da.inMemory.BookDA;
6 import kr.ac.kopo.da.inFile.BookDA;
- BorrowService Class
 7⊖ //import kr.ac.kopo.da.inMemory.BookDA;
 8 //import kr.ac.kopo.da.inMemory.BorrowDA;
 9 import kr.ac.kopo.da.inFile.BookDA;
10 import kr.ac.kopo.da.inFile.BorrowDA;
```

#### Type and Util Class

## ## ROTEQUALPWD: ErrorType ## NOTEQUALPWD: ErrorType ## OUTOFFORM: ErrorType ## EXIST: ErrorType ## NOTEXIST: ErrorType ## BORROWED: ErrorType ## FAIL: ErrorType ## SUCCESS: ErrorType

# ## Close | kr.ac.kopo.util ## close(is: InputStream): void ## close(os: OutputStream): void ## close(fis: InputStream, is: InputStream): void ## close(fos: OutputStream, os: OutputStream): void ## close(fos: OutputStream, os: OutputStream): void ## close(r: Reader): void ## close(fr: Reader, r: Reader): void ## close(fw: Writer, w: Writer): void

### FileReadWrite kr.ac.kopo.util write(filename: String, map: Map<?,?>): boolean read(filename: String): Object

