LAB14_ANP_C6339_ARRAYLIST

Due date: Thursday, 30 November 2023, 5:30 AM
Maximum number of files: 1
Type of work: Individual work

Lingabathula Thapaswi[AF0339471]

Assignment-1.

Create a Book class with bookId, bookName and authorName.
Create parameterized constructor to initialize the object.
Create an ArrayList of type Book and store all book objects into collections and display all book details.
[Hint: Use advanced for loop to display all Books details]

Solution:-

```java
import java.util.ArrayList;

import java.util.List;


class Book {

    private int bookId;

    private String bookName;

    private String authorName;


    public Book(int bookId, String bookName, String authorName) {

        this.bookId = bookId;

        this.bookName = bookName;

        this.authorName = authorName;

    }


    public int getBookId() {

        return bookId;

    }


    public void setBookId(int bookId) {

        this.bookId = bookId;

    }


    public String getBookName() {
```

```java
        return bookName;
    }

    public void setBookName(String bookName) {
        this.bookName = bookName;
    }

    public String getAuthorName() {
        return authorName;
    }

    public void setAuthorName(String authorName) {
        this.authorName = authorName;
    }

    @Override
    public String toString() {
        return "Book{" +
            "bookId=" + bookId +
            ", bookName='" + bookName + '\'' +
            ", authorName='" + authorName + '\'' +
            '}';
    }
}

public class BookMain {
    public static void main(String[] args) {
        List<Book> books = new ArrayList<>();

        // Create and add book objects to the list
        books.add(new Book(1, "The Lord of the Rings", "J.R.R. Tolkien"));
        books.add(new Book(2, "The Hobbit", "J.R.R. Tolkien"));
        books.add(new Book(3, "Pride and Prejudice", "Jane Austen"));
        books.add(new Book(4, "Harry Potter and the Sorcerer's Stone", "J.K. Rowling"));
```

```java
        // Display all book details using an enhanced for loop

        System.out.println("Book Details:");

        for (Book book : books) {

            System.out.println(book);

        }

    }

}
```

Output:

```
C:\Users\thila\OneDrive\Desktop\Anudip_Labs>javac BookMain.java

C:\Users\thila\OneDrive\Desktop\Anudip_Labs>java BookMain
Book Details:
Book{bookId=1, bookName='The Lord of the Rings', authorName='J.R.R. Tolkien'}
Book{bookId=2, bookName='The Hobbit', authorName='J.R.R. Tolkien'}
Book{bookId=3, bookName='Pride and Prejudice', authorName='Jane Austen'}
Book{bookId=4, bookName='Harry Potter and the Sorcerer's Stone', authorName='J.K. Rowling'}
```

Assignment-2.

Write a Java program that calculates the sum of all even numbers present in an ArrayList of integers.
Solution:-

```java
import java.util.ArrayList;

import java.util.List;


public class SumEvenNumMain {

    public static void main(String[] args) {

        List<Integer> numbers = new ArrayList<>();

        numbers.add(1);

        numbers.add(2);

        numbers.add(3);

        numbers.add(4);

        numbers.add(5);


        int sumEvenNumbers = 0;

        for (Integer number : numbers) {

            if (number % 2 == 0) {

                sumEvenNumbers += number;
```

```
        }
    }


    System.out.println("Sum of even numbers: " + sumEvenNumbers);

  }
}
```

Output:

```
C:\Users\thila\OneDrive\Desktop\Anudip_Labs>javac SumEvenNumMain.java

C:\Users\thila\OneDrive\Desktop\Anudip_Labs>java SumEvenNumMain
Sum of even numbers: 6
```