

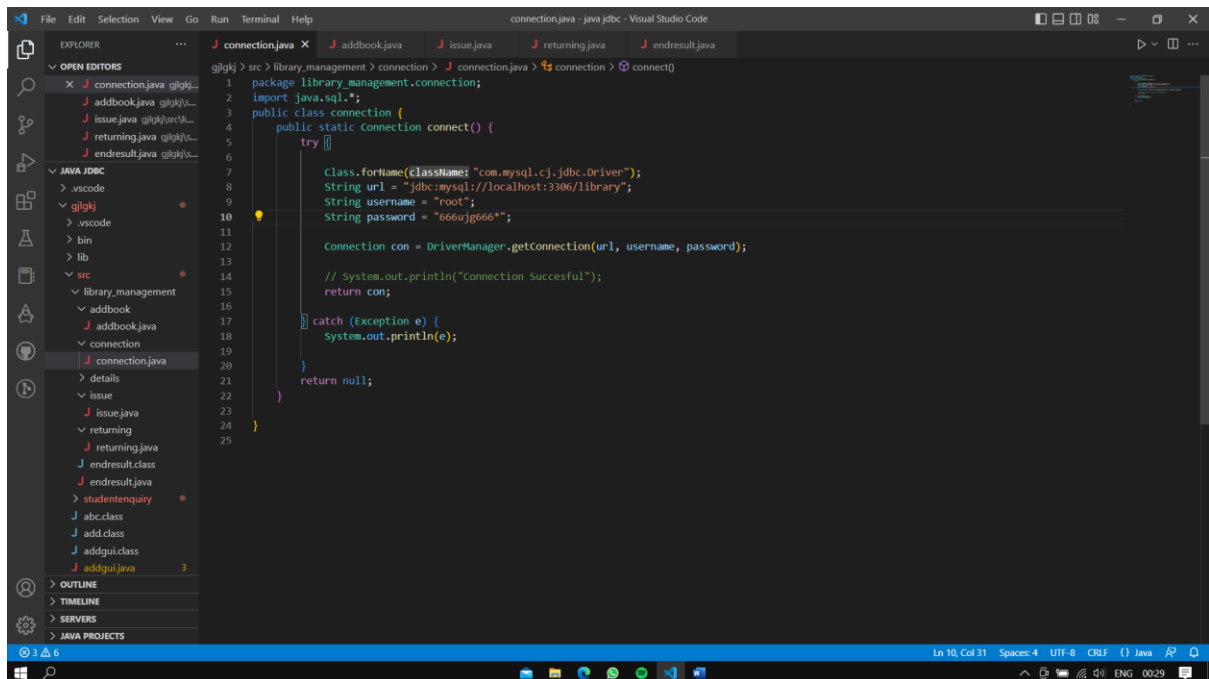
Assignment of OOPS

Name- Ujjwal Kumar Gupta

SAP ID- 500091584

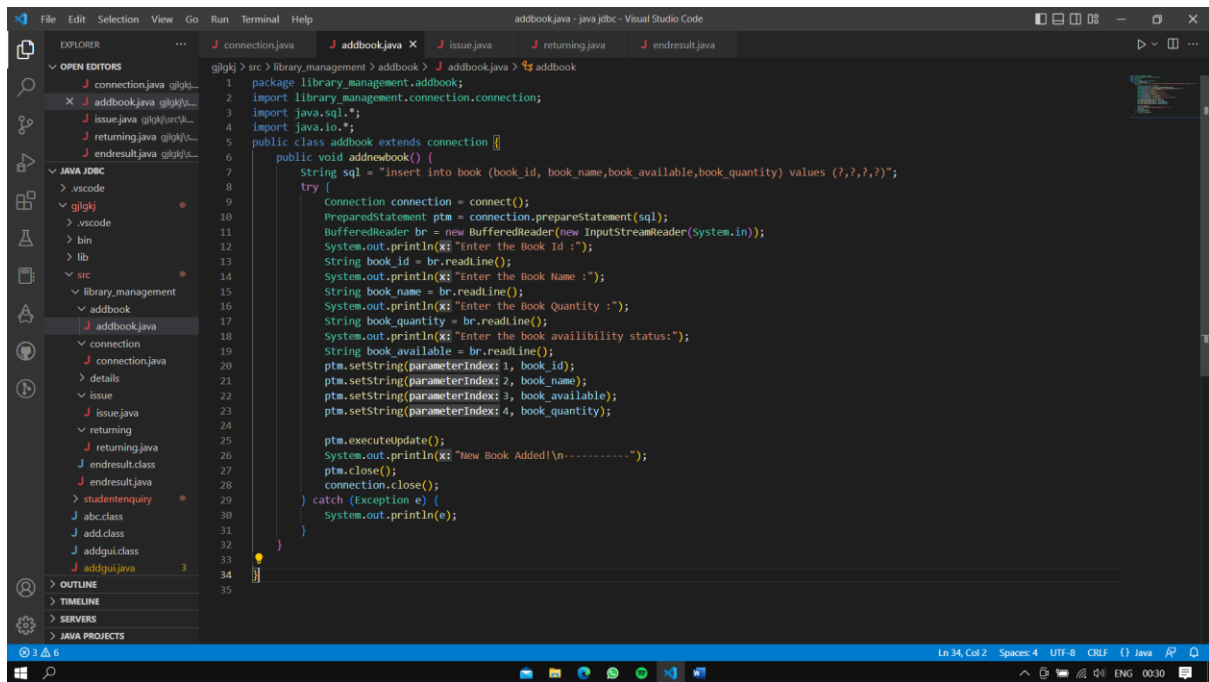
2. Library management system

- Database: library
 - Table: book(sno, book_id, book_name, author_name, title, subject, quantity, qty_available)
 - Table: issue(issue_no, book_id, name)
- Create a AddNewBook page to add details of a new book (insert query)
- Create a page to print the details and availability of a particular book on the basis of book_id
- Create a page to issue a book (Update the quantity in book table and insert details in issue table)
- Create a page to return a book (Update qty_available in book table)

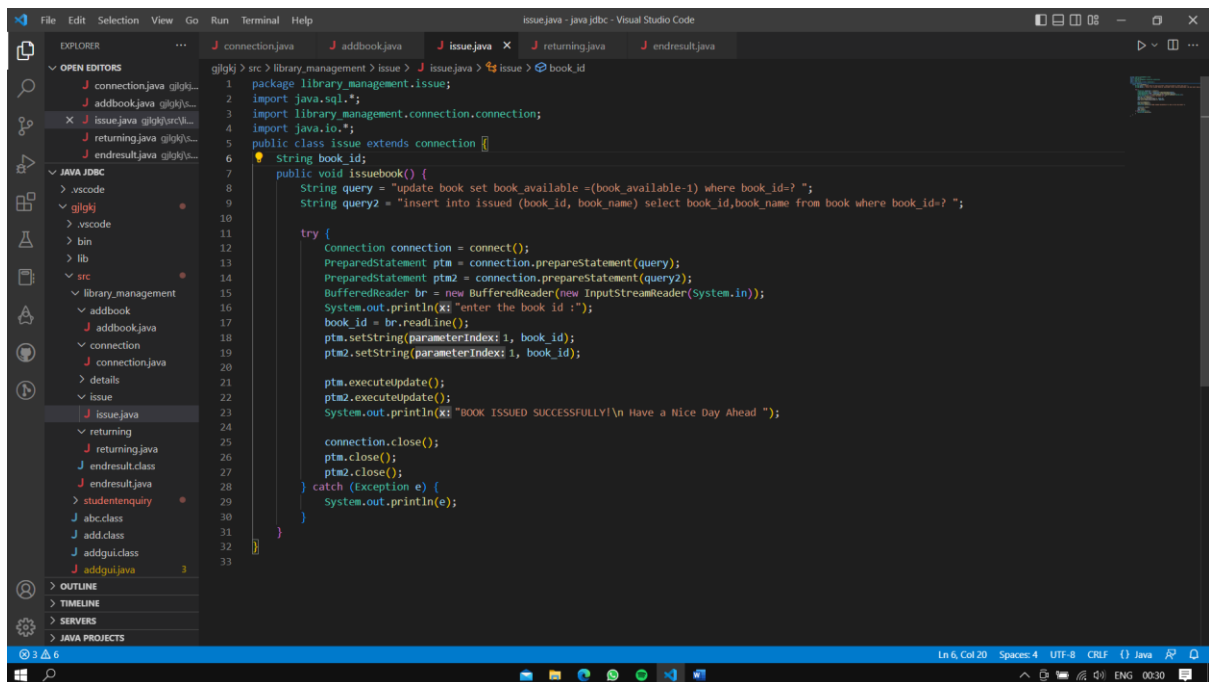


The screenshot shows the Visual Studio Code interface with a Java project named 'library_management'. The Explorer panel on the left shows the project structure, including a 'connection' package. The main editor displays the 'connection.java' file, which contains the following code:

```
1 package library_management.connection;
2 import java.sql.*;
3 public class connection {
4     public static connection connect() {
5         try {
6
7             Class.forName("com.mysql.cj.jdbc.Driver");
8             String url = "jdbc:mysql://localhost:3306/library";
9             String username = "root";
10            String password = "666ujg666";
11
12            Connection con = DriverManager.getConnection(url, username, password);
13
14            // System.out.println("Connection Successful");
15            return con;
16
17        } catch (Exception e) {
18            System.out.println(e);
19        }
20        return null;
21    }
22 }
23
24
25
```



```
1 package library_management.addbook;
2 import library_management.connection.connection;
3 import java.sql.*;
4 import java.io.*;
5 public class addbook extends connection {
6     public void addnewbook() {
7         String sql = "insert into book (book_id, book_name,book_available,book_quantity) values (?,?,,?)";
8         try {
9             Connection connection = connect();
10            PreparedStatement pta = connection.prepareStatement(sql);
11            BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
12            System.out.println("Enter the Book Id :");
13            String book_id = br.readLine();
14            System.out.println("Enter the Book Name :");
15            String book_name = br.readLine();
16            System.out.println("Enter the Book Quantity :");
17            String book_quantity = br.readLine();
18            System.out.println("Enter the book availability status:");
19            String book_available = br.readLine();
20            pta.setString(parameterIndex:1, book_id);
21            pta.setString(parameterIndex:2, book_name);
22            pta.setString(parameterIndex:3, book_available);
23            pta.setString(parameterIndex:4, book_quantity);
24
25            pta.executeUpdate();
26            System.out.println("New Book Added!\n-----");
27            pta.close();
28            connection.close();
29        } catch (Exception e) {
30            System.out.println(e);
31        }
32    }
33 }
```



```
1 package library_management.issue;
2 import java.sql.*;
3 import library_management.connection.connection;
4 import java.io.*;
5 public class issue extends connection {
6     String book_id;
7     public void issuebook() {
8         String query = "update book set book_available =(book_available-1) where book_id=? ";
9         String query2 = "insert into issued (book_id, book_name) select book_id,book_name from book where book_id=? ";
10        try {
11            Connection connection = connect();
12            PreparedStatement pta = connection.prepareStatement(query);
13            PreparedStatement pta2 = connection.prepareStatement(query2);
14            BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
15            System.out.println("Enter the book id :");
16            book_id = br.readLine();
17            pta.setString(parameterIndex:1, book_id);
18            pta2.setString(parameterIndex:1, book_id);
19
20            pta.executeUpdate();
21            pta2.executeUpdate();
22            System.out.println("BOOK ISSUED SUCCESSFULLY!\n Have a Nice Day Ahead ");
23
24            connection.close();
25            pta.close();
26            pta2.close();
27        } catch (Exception e) {
28            System.out.println(e);
29        }
30    }
31 }
```

```
1 package library_management.returning;
2
3 import java.sql.*;
4 import java.io.*;
5
6 import library_management.connection.connection;
7
8 public class returning extends connection {
9     public void returnbook() {
10         String query = "update book set book_avaiable= (book_avaiable+1) where book_id=?";
11         try {
12             Connection connection = connect();
13             PreparedStatement ptm = connection.prepareStatement(query);
14             BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
15
16             System.out.println("Enter the book id :");
17             String book_id = br.readLine();
18             ptm.setString(parameterIndex: 1, book_id);
19             ptm.executeUpdate();
20
21             System.out.println("Book Returned Successfully\n Have a Great Day Ahead!");
22             connection.close();
23             ptm.close();
24         } catch (Exception e) {
25             System.out.println(e);
26         }
27     }
28 }
29
30
31
```

```
1 package library_management;
2 import library_management.addbook.*;
3 import library_management.details.*;
4 import library_management.issue.*;
5 import library_management.returning.returning;
6 import java.util.*;
7 public class endresult {
8     public static void main(String[] args) {
9         addbook a1 = new addbook();
10         details d1 = new details();
11         issue i1 = new issue();
12         returning r1 = new returning();
13         System.out.println("Welcome to the Library Management System :");
14         System.out.println("-----");
15         System.out.println("1: ADD NEW BOOK \n2: DETAILS \n3: ISSUE BOOK\n4: RETURN BOOK");
16         System.out.println("Choose what action do you want to perform on library system :");
17         Scanner s1 = new Scanner(System.in);
18         int number = s1.nextInt();
19         switch (number) {
20             case 1:
21                 a1.addnewbook();
22                 break;
23             case 2:
24                 d1.printdetails();
25                 break;
26             case 3:
27                 i1.issuebook();
28                 break;
29             case 4:
30                 r1.returnbook();
31                 break;
32         }
33         s1.close();
34     }
35 }
36
```

Result Grid | Filter Rows: | Edit | Export/Import | Wrap Cell Content: 15

s_no	book_id	book_name	book_available	book_quantity
1	23	engineering mathematics	13	14
2	24	engineering physics	25	30
3	25	basic python	25	30
4	26	C++ grewall	25	30
5	27	let us C/C++	25	30
6	28	Data structures by Nelson	25	30
7	29	Design analysis and algorithm	25	30
8	30	Probability and Statistics	24	30
9	31	Software planning	25	30
10	32	Civil planning	25	30
11	33	Basic of petroleum industry	25	30

book 1 x

Output

Action Output

#	Time	Action	Message
1	00:36:56	use library	0 row(s) affected
2	00:36:59	select * from book LIMIT 0, 1000	11 row(s) returned

Result Grid | Filter Rows: | Edit | Export/Import | Wrap Cell Content: 15

issue_no	book_id	book_name
1	30	Probability and Statistics

issued 1 x

Output

Action Output

#	Time	Action	Message
2	00:36:59	select * from book LIMIT 0, 1000	11 row(s) returned
3	00:37:25	use library	0 row(s) affected
4	00:37:27	select * from issued LIMIT 0, 1000	1 row(s) returned