Class Diagram Examples
Right click **Use Case View**
Choose New -> Class Diagram
Name it

LibraryClasses
Double-click **LibraryClasses** and maximize the diagram.
Right click

*Use Case View*
Choose New -> Class
Name it **Book**
Do the same and create these classes:
Patron
Student
Faculty
Drag them into the class diagram
Right-click Book, Select New Attribute
Add the remaining attribute:
- Author
- ISBN
- Publisher
- Status

Assets:
- Title
- Author
- ISBN
- Publisher
- Status

Classes:
- Patron
- Book
- Student
- Faculty
Right-click Book, Select New Operation
Name it `isAvailable`
Enter the rest of the attributes and operations as shown in the diagram.
Click the Generalization arrow
Drag it from **Student** to **Patron**
Do the same for Faculty
Drag the arrow head of the **Faculty** class arrow of the **Student** class
We have built an inheritance tree.
Data Modeler Examples
Right click
Component View
Choose Data Modeler -> New -> Database
Rename it db_Library
Double-click **db_Library** and open the **Specification**
Click the drop-down box
Select IBM DB2 7.x
| Name:     | db_Library       |
| SQL Name: |                 |
| Target:   | IBM DB2 7.x     |

Then click **OK**
Right-click **db.Library**
Choose Data Modeler -> New -> Tablespace
Rename it tsp_Library
Right click Logical View
Choose Data Modeler -> New -> Schema
Right-click S_0
Choose Rename
Type in s_Library
Right-click s_Library, Choose Data Modeler -> New -> Table
Rename T_0 to T_Book
Double-click **T_Book** to open **Specification**
Select the **Columns** tab
Click the New Column button
Click **COL_0** to rename it
Enter Title

<table>
<thead>
<tr>
<th>Name</th>
<th>PK</th>
<th>Domain</th>
<th>Type</th>
<th>Not Null</th>
<th>Unique</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>SMALLINT</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Click **SMALLINT** to change the type.
<table>
<thead>
<tr>
<th>Name</th>
<th>PK</th>
<th>Domain</th>
<th>Type</th>
<th>Not Null</th>
<th>Unique</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td></td>
<td></td>
<td>VARCHAR</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Select VARCHAR
Click Specification button
Click Type tab
Change the length to 80
Click OK
Add the remaining column as shown in the screen, with these be the length of the columns:

**Author**: VARCHAR(50)

**ISBN**: VARCHAR(10)

**Publisher**: VARCHAR(30)

**Status**: VARCHAR(20)
Click here and select **PK** (Primary Key) in the dropdown for the **ISBN** column.

Check the **Unique** box.

Then click **OK**.
Right-click **T_Book**, Choose *Data Modeler -> New -> Data Model Diagram*
Rename **NewDiagram** to **LibraryDataModel**
Double-click it to bring up the Data Model Diagram, and maximize it
Drag T_Book to the diagram
Follow the steps of creating **T_Book** to create another table **T_Patron**

**Name**: VARCHAR(50)

**Gender**: VARCHAR(1)

**Address**: VARCHAR(100)

**LibraryCardNumber**: VARCHAR(10)

PK, Unique
Click Format Menu
Select Layout Diagram
Click the Non-Identifying Association line to open the Specification
Select 0..1 in the Cardinality dropdown.
Click OK
Use Case Examples
Expand Use Case View
Right-click **Use Case View**
Choose New -> Actor
Type in **LibraryUser**
Right-click Use Case View
Choose **New -> Use Case**
Name it

Check Book Availability
Do the same to add a **Librarian Actor**, 
**Use Cases**
Checkout Book
Renew Book
Reserve Book
Re-shelf Book
Return Book
Right-click the Main Use Case Diagram, Click Rename, and type in Library Transactions
Double-click **Library Transaction** to bring up the **Use Case Diagram**.
Maximize the Use Case Diagram
Drag LibraryUser and Librarian to the Use Case Diagram
Likewise, drag all the *Use Cases* to the diagram one by one.
Click the **Unidirectional Association** arrow (solid line arrow)
Click and hold the mouse click on **LibraryUser**, drag it over to **Return Book**, then release the mouse.
Return Book *Use Case* is then associated to *Library User*.

Do the same to create Association arrows as shown in the diagram.
Click the **Dependency** arrow (dotted line arrow)
Drag from **Reserve Book** to **Check Book Availability**
Right click the Dependency arrow
Open the drop down box
Choose *Include*
Then click OK
Drag <<include>> above the arrow