Exercise 1  
Create Tables

Suppose you are provided with the following ER diagram. Only the primary keys and the intersection data are shown in the diagram. How could you implement it using Access? Use Relational Model.

![ER Diagram for Exercise](image)

**MINI-EXERCISE**

1. Develop your relational model below
In Access, on the Menu page, choose Blank Database (Fig 2). Give your database a name eg. Stock.mdb (Note: An Access Database file has the extension "*.mdb") and a location to be saved. In this case, the name is **db1.mdb**.

After you create a file, Access will automatically bring you to the view of the tables (see Figure 3)

![Figure 2: creating new database](image1)

![Figure 3: Database Window](image2)

These are the Relational Tables that we have to implement:
MINI-EXERCISE

II. Set up tables
Be able to select the Correct Data Type for each field:

<table>
<thead>
<tr>
<th>Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AutoNumber</td>
<td>Automatically creates a unique value for each record entered</td>
</tr>
<tr>
<td>Integer</td>
<td>Integers (no decimals) from -32,768 to 32,767 (2 bytes)</td>
</tr>
<tr>
<td>Long Integer</td>
<td>Integers (no decimals) from -2,147,483,648 to 2,147,483,647 (4 bytes)</td>
</tr>
<tr>
<td>Decimal</td>
<td>Largest decimal with most precision (12 bytes, decimal precision: 28)</td>
</tr>
<tr>
<td>Single</td>
<td>Smallest decimal with least precision (4 bytes, decimal precision: 7)</td>
</tr>
<tr>
<td>Double</td>
<td>Decimal with more precision (8 bytes, decimal precision: 15)</td>
</tr>
</tbody>
</table>

III. Be able to define Field Properties for each field of the Table
Field Size applies only to Text, Number, and AutoNumber Type Fields. For a text field you can have from 0 to 255 characters. For Numeric Type, you can select from a drop down box the following choice:

Format applies to all fields except OLE object (not covered in this class). You use this to control the display of the data items in table. You can custom format into the Format text box, using special characters that represent particular formatting options. Most of it will be provided from a drop-down list of pre-defined formats.

Decimal Places applies only to Number and Currency fields. Specifies the number of digits that will appear after the decimal point in a numeric value.

Caption applies to all types of fields. This property supplies an alternative caption for a field when you include the field on a form or view it as a Datasheet. (The default is simply the field name you provide when you create the fields)

Default Value applies to all fields except AutoNumber fields. This property allows you to supply a default value for any given record.

Validation Rule applies to all fields except AutoNumber fields. The setting of this property is typically a conditional expression that serves as a test for new entries into this field. Access will display an error message on the screen if the expression is violated.

Validation Text applies to the error message Access will display if the validation rule is not satisfied.

Indexed applies to Number, AutoNumber, Currency, Text and Date/Time fields. A Yes setting in this field instructs Access to create an index for performing search and sort operations on the field. You can select Yes (no duplicate) option to prevent duplicate entries in the field column; or you can select Yes (duplicates OK) to allow duplicate entries. Note that the setting for the primary key is Yes (No duplicates) otherwise in this class, you would set it to No.

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1 Object Linking and Embedding
MINI-EXERCISE

IV. Try to create validity checks:
   1. Catalog in Stocks Table - Only H or S or F are valid
   2. Quantity in Stocks Table - Have to be >= 0