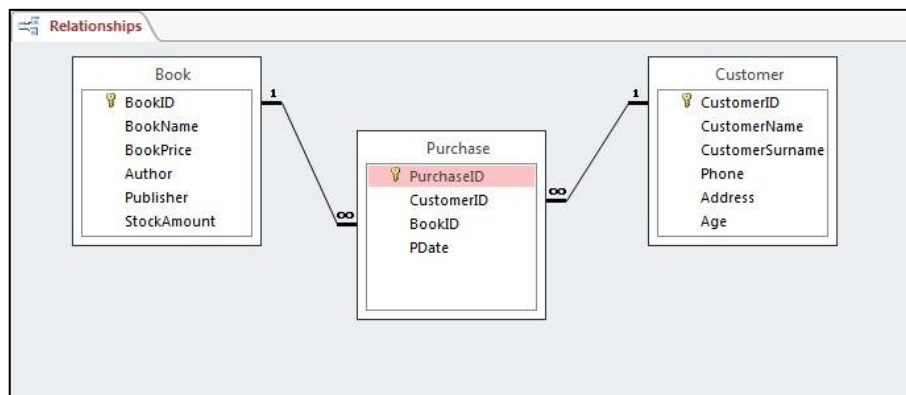


**OBJECTIVE:** Introduction to MS Office Access**Instructors** : Dr. Erkan Uçar

Week: 8

**Assistants:** : Efekan Yilmaz

The aim of this lab hour is to create a database in the MicrosoftOffice Access software. This database is going to be about a Book Store, and it will store information about the books in store, the customers and information about these customers, as in who bought books from the Book Store. The relation between Customer and Book tables can be seen in the following relation:



Because there is a many to many relation, i.e. many customers purchasing books but each customer purchasing a book only once, between the Book and the Customer tables there should also be a relation table as “Purchase” that will store both the customerID and the bookID; Customer and Book tables’ primary keys, as fields; as well as the date of the purchase and the purchaseID as the table primary key, in order to hold all purchase records for all customers. Primary key is necessary for all of the tables, it should be a unique value. The reason why Purchase and Customer IDs aren’t used as a composite primary key together is because a customer can always buy the same book twice.

## Create Database

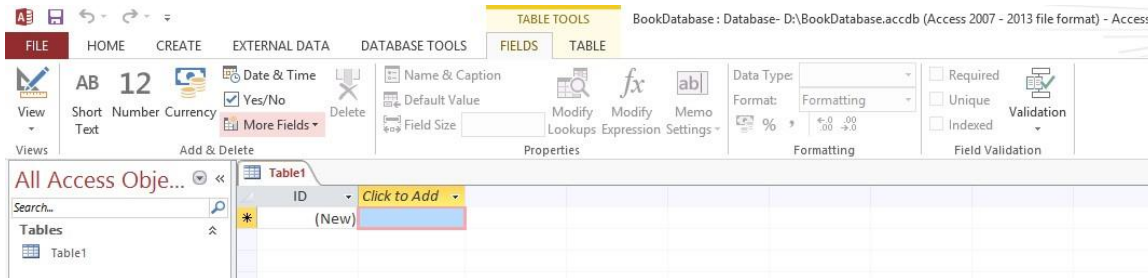
In order to begin to create the database open MicrosoftOffice Access and follow the rest of this guide. After you have clicked the Access 2013 shortcut you will see the startup window of the application, and in that window click on the “blank desktop database” option. You will see the following window:



Because we will create a new database give the name of the database into FileName part, BookDatabase, and then select D:\ drive to save the database. Then click on “Create” button.

Then the Access interface will appear on the screen.

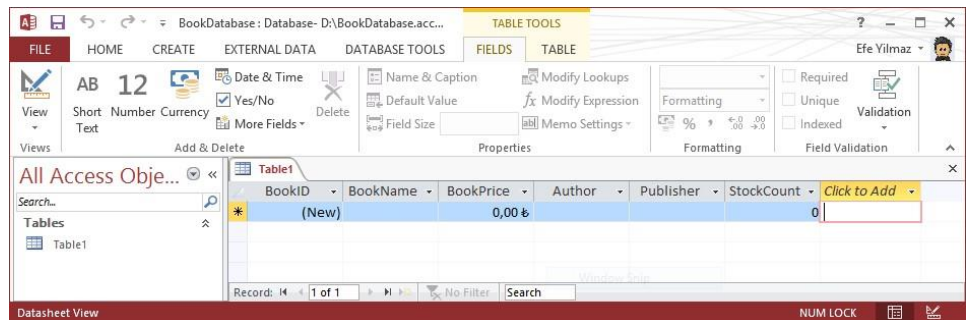
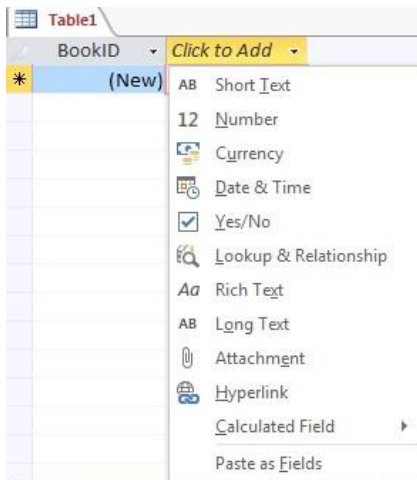
## Create Table



Firstly, you should create your tables and to do this: use the user interface you will see the above, the Tables section; The program automatically generates the Table1 view whilst creating the database, and you can add the necessary fields to this table right away at this point. To begin with, the program has generated an ID and set it as primary key of the table; go and rename this ID field as “BookID” by double clicking the name and typing the new name.

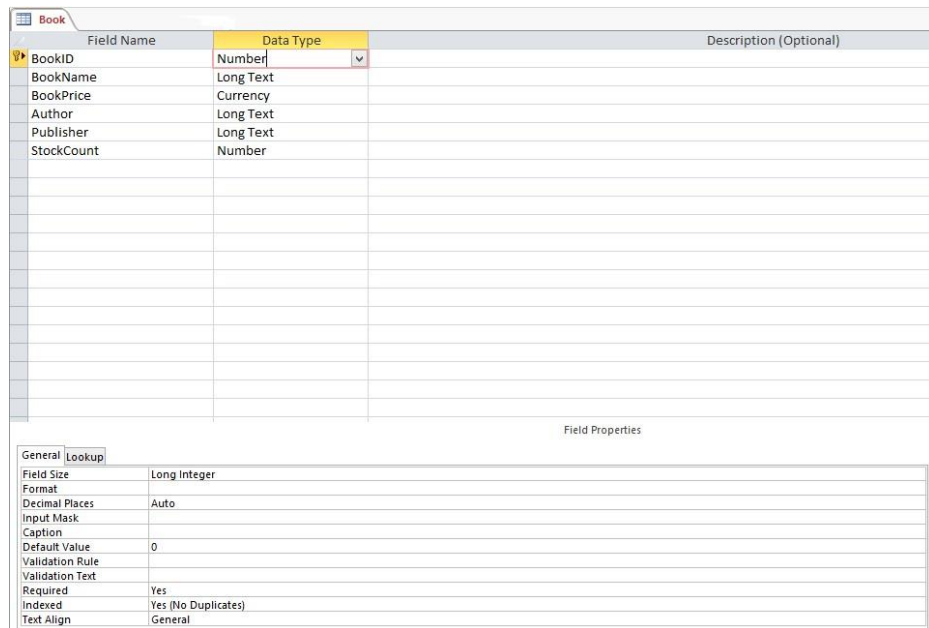


Then write the fields’ names and the type of the fields of the “Book” table as shown above in the relationships picture. To do so, click on the “Click to add” button to see the data type of the fields you can choose from. Use Long Text option for the name of the book. Then give the name of the field as BookName:



We have so far set the “BookID” field is the primary key. All the tables must contain a primary key as an identifier. Set CTRL + S to save your changes on this first table so far, and then to see the table’s field’s properties right click on the table name and select “Design View”:

When you do that, it will ask you to give a name for the table. Name it as “Book”.



Book		Customer	
Field Name		Data Type	
CustomerID	Number	PurchaseID	Number
CustomerName	Long Text	CustomerID	Number
CustomerSurname	Long Text	BookID	Number
Phone	Long Text	PDate	Date/Time
Address	Long Text		
Age	Number		


  

General	Lookup
Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	0
Validation Rule	
Validation Text	
Required	Yes
Indexed	Yes (No Duplicates)
Text Align	General

General	Lookup
Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	0
Validation Rule	
Validation Text	
Required	Yes
Indexed	Yes (No Duplicates)
Text Align	General

You can help people enter data correctly into your database by providing input masks for fields that contain data that is always formatted a certain way. For example, you can use an input mask to make sure that people enter correctly formatted phone numbers into a phone number field.

Create an input mask for the **phone** field in the **Customer** table, to do this change the data type of phone to short text, save your change, then set size of the phone field to 10. Click the input Mask Wizard button  under the field properties part and save the table.

[illegible]

- In the Input Mask list, select the type of mask that you want to add.
- Click **Try it** and enter data to test how the mask displays.
- To keep the input mask without any changes, click **Next**.
- Select an option for how you want the data to be stored.
- Click **Next** and then **Finish** and save your changes.

**Input Mask Wizard**

Which input mask matches how you want data to look?

To see how a selected mask works, use the Try It box.

To change the the Input Mask list, click the Edit List button.

Input Mask:	Data Look:
Telefon Numarası	(212) 258 99 98
Vergi Dairesi ve No	Beylerbeyi / 621 002 0498
Posta Kodu	80700
Sosyal Sigorta Numarası	34.07.1995 36591
Sigorta Kod Numarası	0702.0500.044
Password	*****

Try It:

Input Mask Wizard

Do you want to change the input mask?

Input Mask Name: Telefon Numarasi

Input Mask: (999) 000 00 00

What placeholder character do you want the field to display?

Placeholders are replaced as you enter data into the field.

Placeholder character: -

Try It:

Cancel < Back Next > Finish

### Input Mask Wizard

How do you want to store the data?

☐ With the symbols in the mask, like this:

(910) 358 54 87

☒ Without the symbols in the mask, like this:

663446245

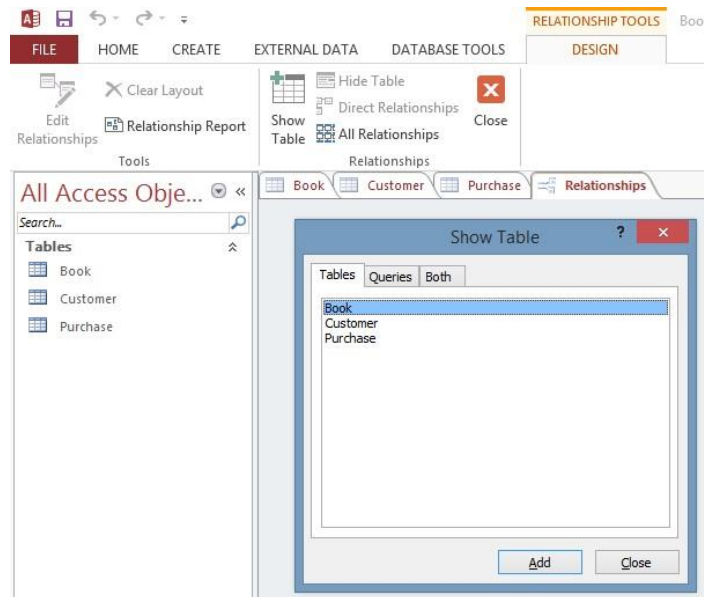
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Cancel < Back Next > Finish

## Creating Relationships

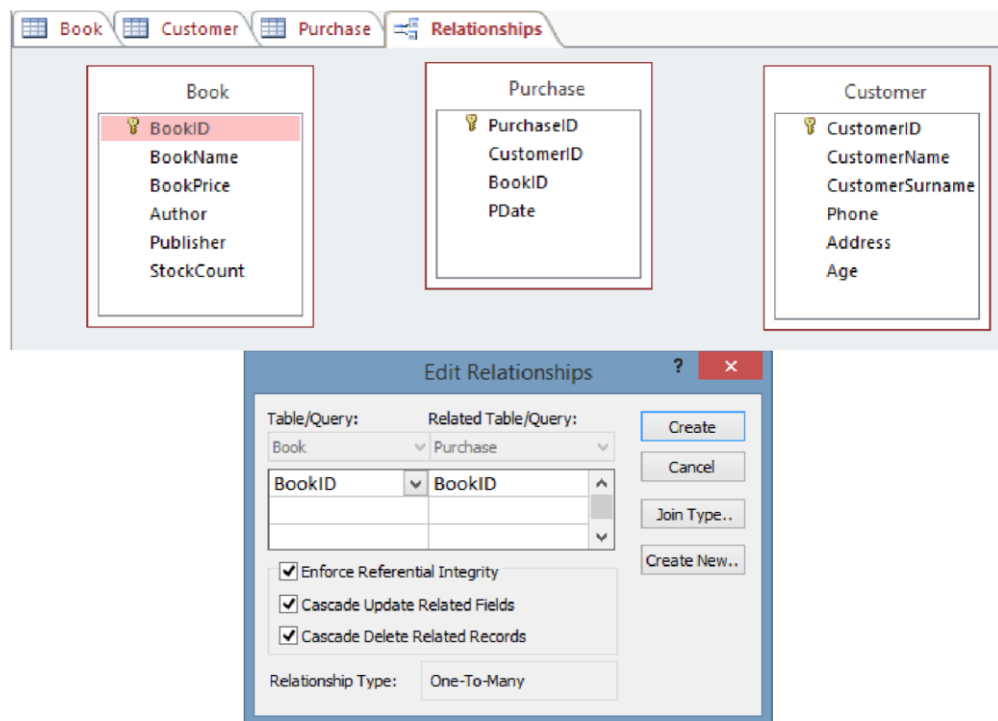
Relationships connect fields of different tables to one another, in a way. To create relationships between Book, Customer and Purchase tables go to **Database Tools-> Relationships** menu. Once there, you will see the following window on the screen:

Because we need all the tables for the relation, firstly close all the open tables and then select all the table names and click "Add" button. Then all these tables will be shown in the Relation Design Table.

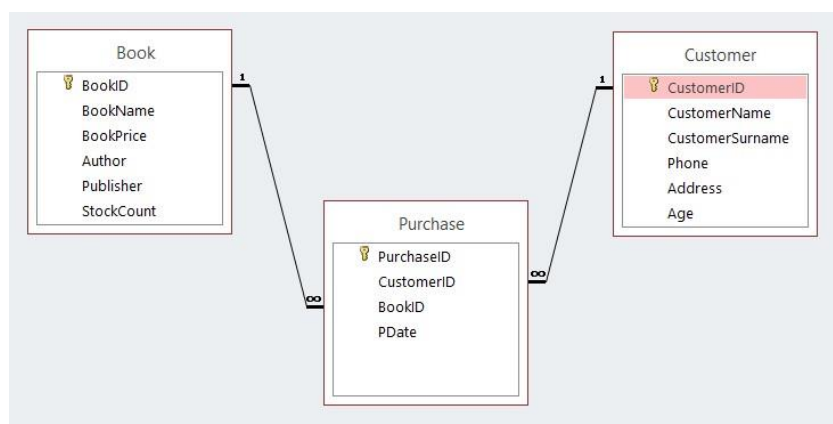


To create the relation click on the BookID field from the Book table then drag and drop it on the BookID of the purchase table. Do the same operation for the CustomerID field of the Customer table and the CustomerID of the Purchase table. Then save the relation.

Before relation:

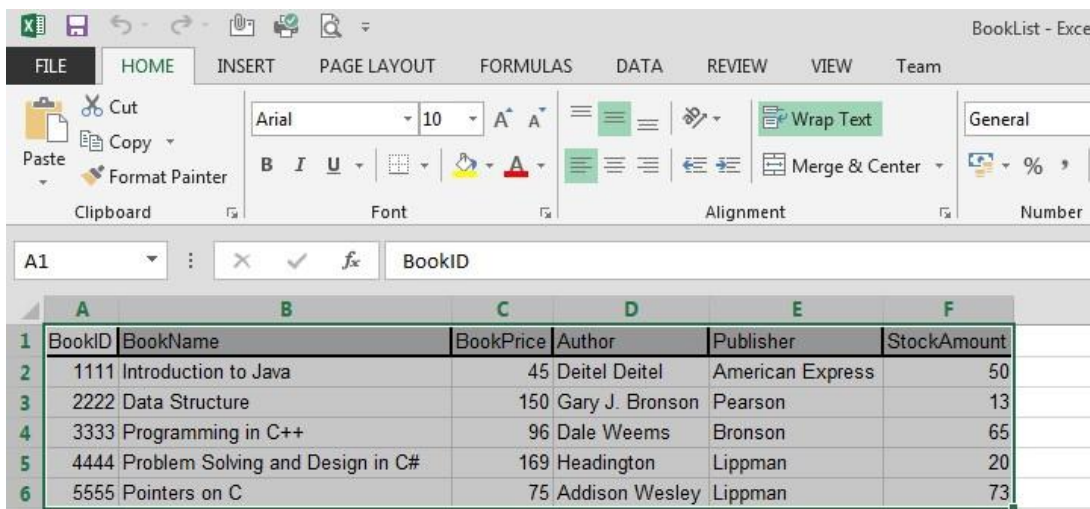


After Relation:



## Filling Data into Tables

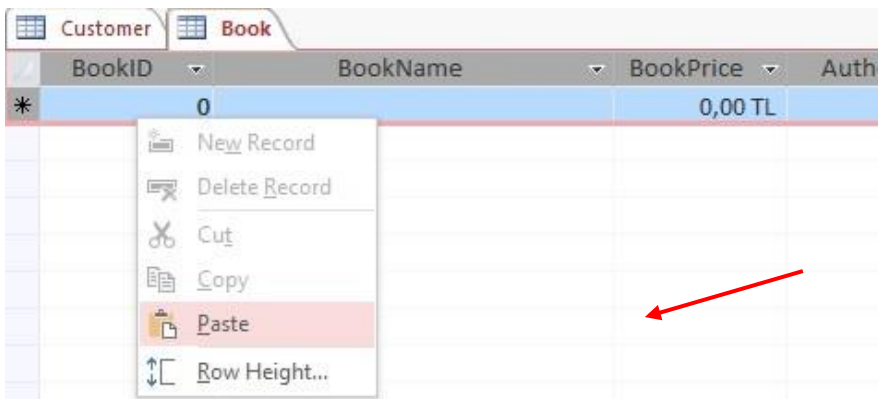
Now, it is time to fill the data in the tables. There are many ways of inserting data into a table. For this lab hour, we are going to use MS Excel to get and insert the data. To do so, open the BookList spreadsheet in the **LG5.zip**, select all the given data and copy it as follows:



The screenshot shows the Microsoft Excel interface with the 'BookList' spreadsheet open. The data is as follows:

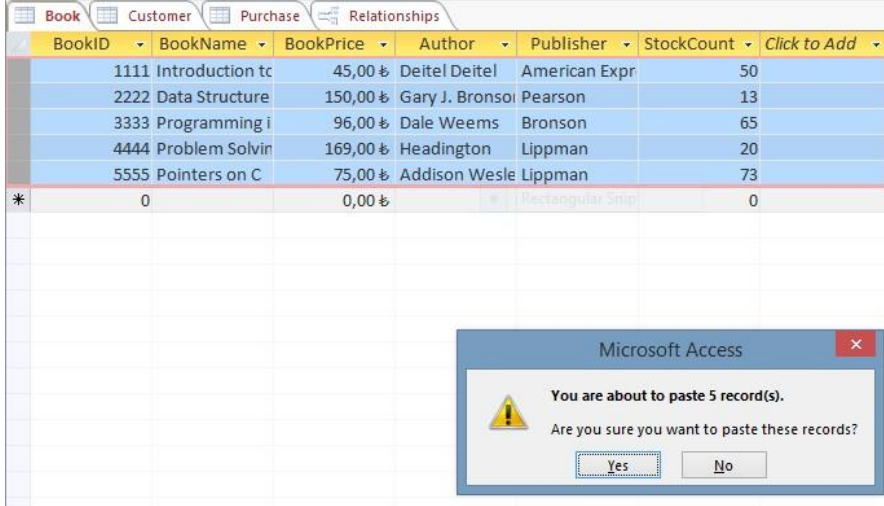
BookID	BookName	BookPrice	Author	Publisher	StockAmount
1111	Introduction to Java	45	Deitel Deitel	American Express	50
2222	Data Structure	150	Gary J. Bronson	Pearson	13
3333	Programming in C++	96	Dale Weems	Bronson	65
4444	Problem Solving and Design in C#	169	Headington	Lippman	20
5555	Pointers on C	75	Addison Wesley	Lippman	73

Come back to the “BookStore” database find the Book table, press CTRL + A to select it all, and press CTRL + V to paste the data, as follows:



The screenshot shows the Microsoft Access interface with the 'Book' table selected. A context menu is open over the table, showing options like 'New Record', 'Delete Record', 'Cut', 'Copy', 'Paste', and 'Row Height...'. A red arrow points to the 'Paste' option.

Then you will see the following windows do the following steps:



The screenshot shows the Microsoft Access interface with the 'Book' table. The data from the Excel spreadsheet has been pasted into the table. A warning dialog box is displayed, asking if the user is sure they want to paste the records.

BookID	BookName	BookPrice	Author	Publisher	StockCount	Click to Add
1111	Introduction to Java	45,00 ₺	Deitel Deitel	American Express	50	
2222	Data Structure	150,00 ₺	Gary J. Bronson	Pearson	13	
3333	Programming in C++	96,00 ₺	Dale Weems	Bronson	65	
4444	Problem Solving and Design in C#	169,00 ₺	Headington	Lippman	20	
5555	Pointers on C	75,00 ₺	Addison Wesley	Lippman	73	
*	0	0,00 ₺			0	

Microsoft Access

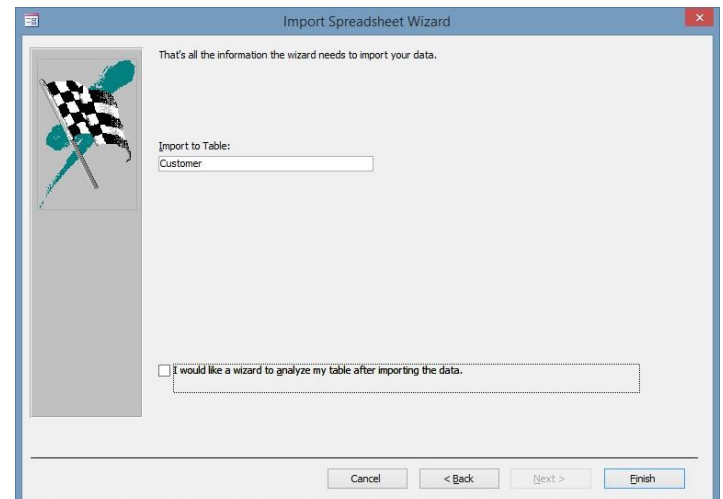
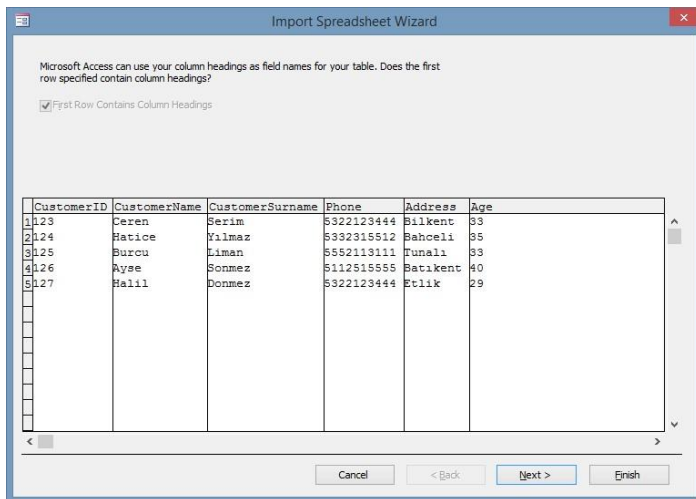
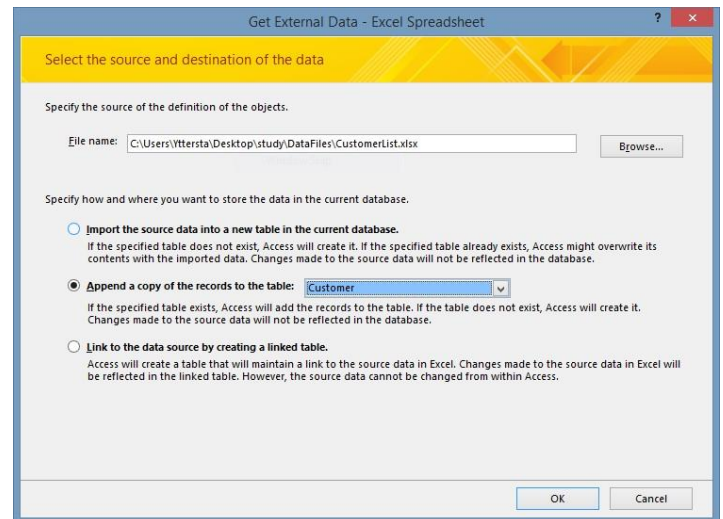
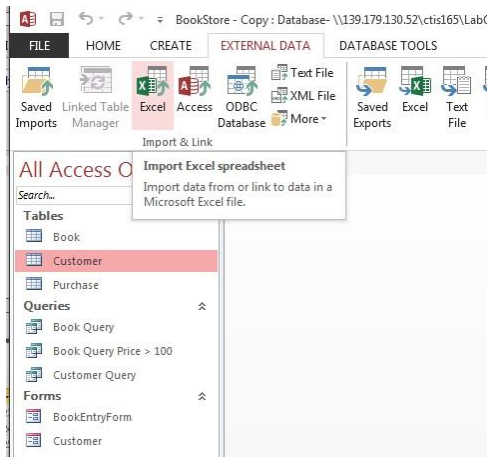
You are about to paste 5 record(s).  
Are you sure you want to paste these records?

Yes No

## Importing Data from a Spreadsheet File into an Existing Table

On the **External Data** tab, in the **Import & Link** group, click the type of the file you want to import. Follow the instructions in the **Get External Data** wizard.

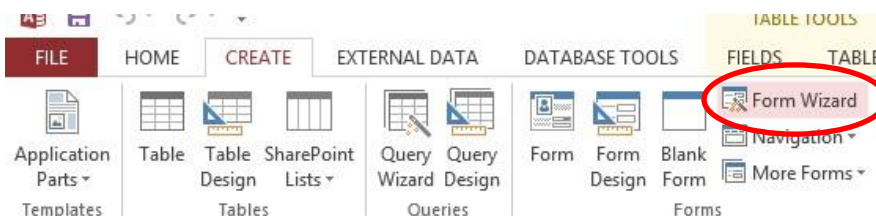




Customer					
CustomerID	CustomerName	CustomerSurname	Phone	Address	Age
123	Ceren	Serim	(532) 212 34 44	Bilkent	33
124	Hatice	Yilmaz	(533) 231 55 12	Bahceli	35
125	Burcu	Liman	(555) 211 31 11	Tunali	33
126	Ayşe	Sonmez	(511) 251 55 55	Batıkent	40
127	Halil	Donmez	(532) 212 34 44	Etlik	29
*	0				0

## Entering Data Using Forms

To be able to enter new data to the database in the related tables, we can also create forms. To create an Entry Form of a specific table, first select the table (for example select the customer table), right click on it and select "form wizard..." menu. Do the following steps to create an entry form:



**Form Wizard**

Which fields do you want on your form?  
You can choose from more than one table or query.

Tables/Queries  
Table: Customer

Available Fields:  
CustomerID  
CustomerName  
CustomerSurname  
Phone  
Address  
Age

Selected Fields:

Buttons: > >> < <<

Buttons: Cancel < Back Next > Finish

**Form Wizard**

Which fields do you want on your form?  
You can choose from more than one table or query.

Tables/Queries  
Table: Customer

Available Fields:

Selected Fields:  
CustomerID  
CustomerName  
CustomerSurname  
Phone  
Address  
Age

Buttons: > >> < <<

Buttons: Cancel < Back Next > Finish

**Form Wizard**

What layout would you like for your form?

Layout preview: A grid of form fields.

Layout Options:  
☐ Columnar  
☐ Tabular  
☐ Datasheet  
☒ Justified

Buttons: Cancel < Back Next > Finish

**Form Wizard**

What title do you want for your form?  
Customer Entry Form

That's all the information the wizard needs to create your form.  
Do you want to open the form or modify the form's design?

☒ Open the form to view or enter information.  
☐ Modify the form's design.

Buttons: Cancel < Back Next > Finish

Close the edit view of the form and from the "Forms" tab double click on the form and try to enter a new entry for the Customer table.

- You may also switch between Design View / Form View

Form View

**Customer Entry Form**

CustomerID

CustomerName  
Ceren

CustomerSurname  
Serim

Phone  
(532) 212 34 44

Address  
Bilkent

Age  
33

Record: 1 of 5 No Filter Search

Design View

**Customer Entry Form**

Navigation Pane: Form View, Layout View, Design View (selected)

Design View: A grid-based layout of the form fields.

Buttons: FILE, HOME, CREATE, EXTERNAL DATA, DATABASE TOOLS, DESIGN, ARRANGE, FORMAT

Buttons: View, Themes, Colors, Fonts, Insert, Image, Logo, Title, Date and Time, Add Existing Fields, Property Sheet, Tools

Buttons: Record, Previous, Next, No Filter, Search

Then create also a form for the Book table.



BookEntryForm

Book Entry Form

BookID	1111
BookName	Introduction to Java
BookPrice	45,00 TL
Author	Deitel Deitel
Publisher	American Express
StockAmount	50

Record: 1 of 5No FilterSearch