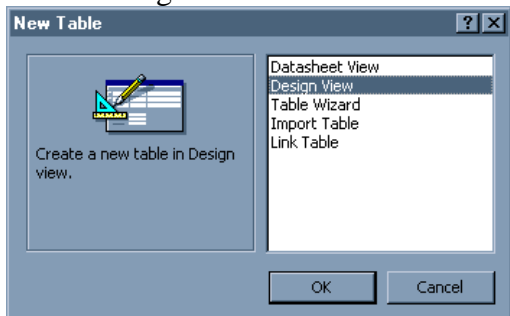


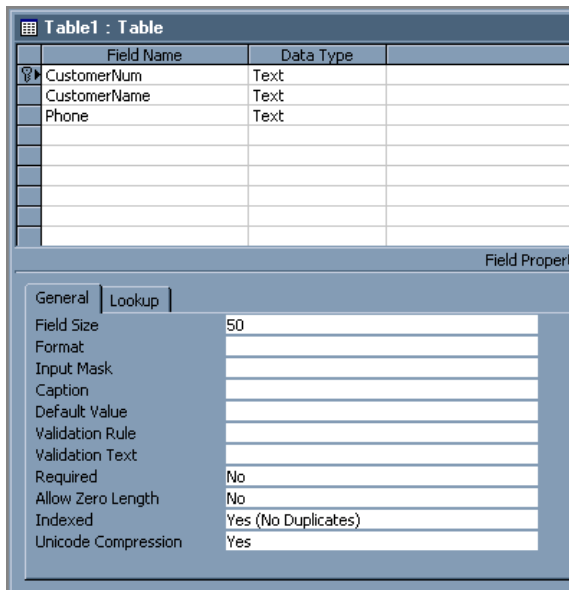
# Exercise to set up Database Relationships and “Enforce Referential Integrity”.

## Step 1 - Create the databases.

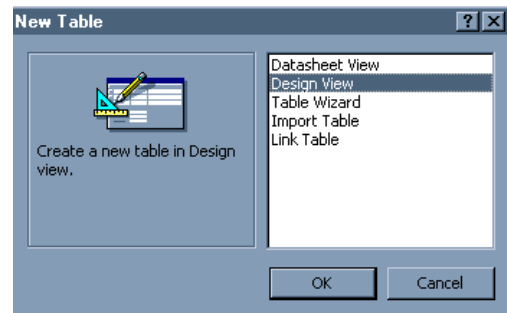
A. Create a new DB and call it Test1. Go to the Tables Object and Choose New→Design View.



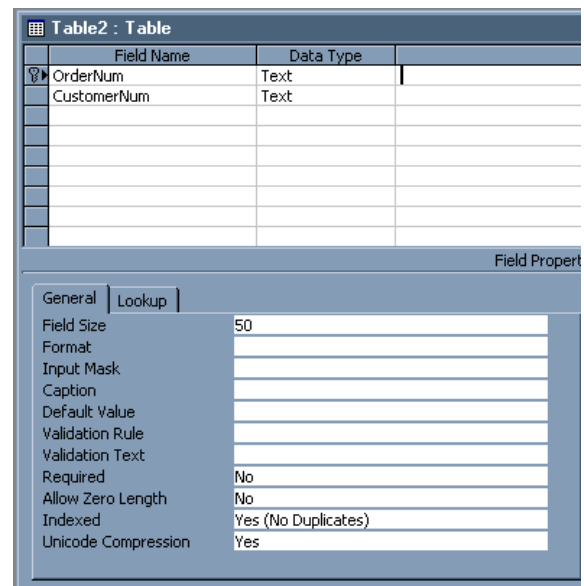
B. Enter the following field names and set the primary key to CustomerNum field. Save the Table as Table1.



C. Select the Tables Object and choose New→Design View.

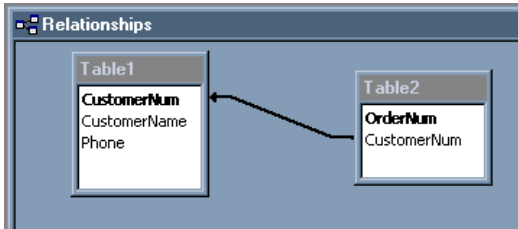


D. Enter the following field names and set the primary key to OrderNum field. Save the Table as Table2.

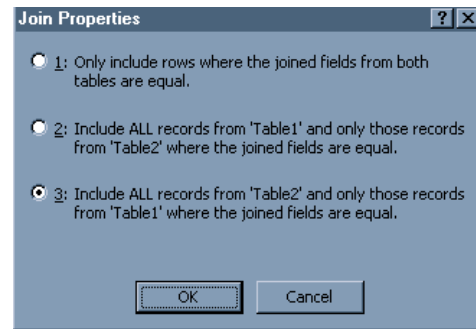


## Step 2–Set up the relationships (No Integrity)

- A. Select the Relationships Icon (Database Tools→Relationship) and set up the relationships as follows.



- B. You will need to choose the join type of option 3.



## Step 3 – Enter Data

- A. Open Table1 and enter in the following data.

	CustomerNum	CustomerName	Phone
+	1	Jeff	9999999999
+	2	Jane	8888888888
*			

- B. Open Table2 and enter in the following data.

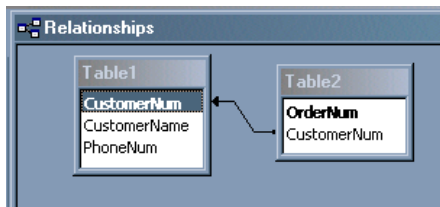
	OrderNum	CustomerNum
	1	1
	2	2
	3	3
*		

### Refer to Customer number 3 in table 2.

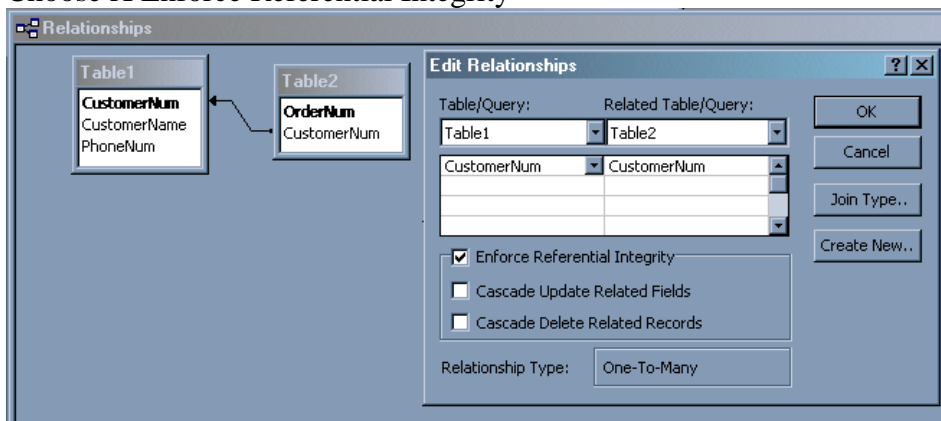
There is no customer 3 record located in Table1. This is a violation of referential integrity and is an Orphan record. Access allowed record 3 to be entered because no integrity has been set up.

## Step 4 - Set “Enforce Referential Integrity”

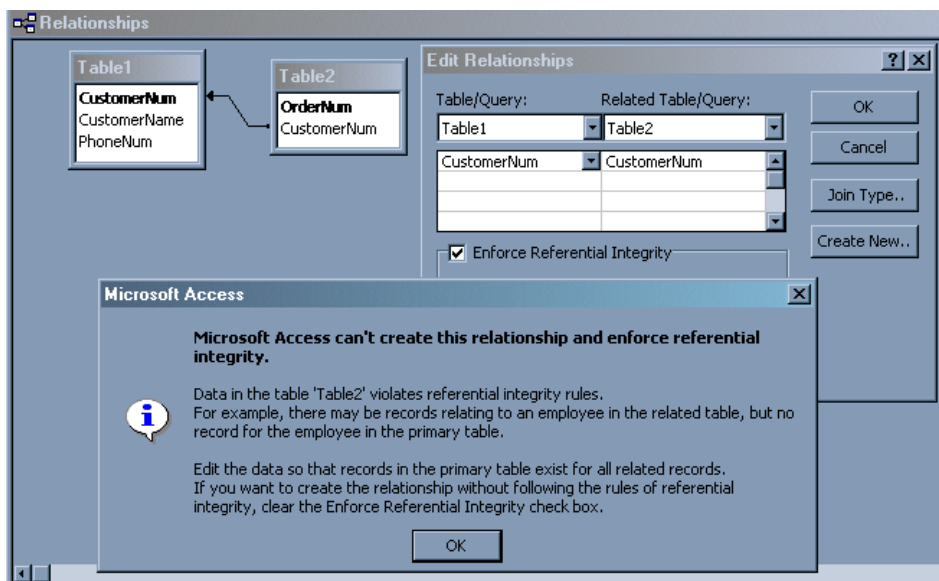
A. Select the relationships Icon



B. Right-Click on the arrow → Choose Edit Relationships  
Choose X Enforce Referential Integrity



C. Since the Table2 has an orphan record it is unable to set the referential integrity. An error message appears stating it can't complete the change.



## Step 5 – Fix Table2 in order to Enforce Referential Integrity

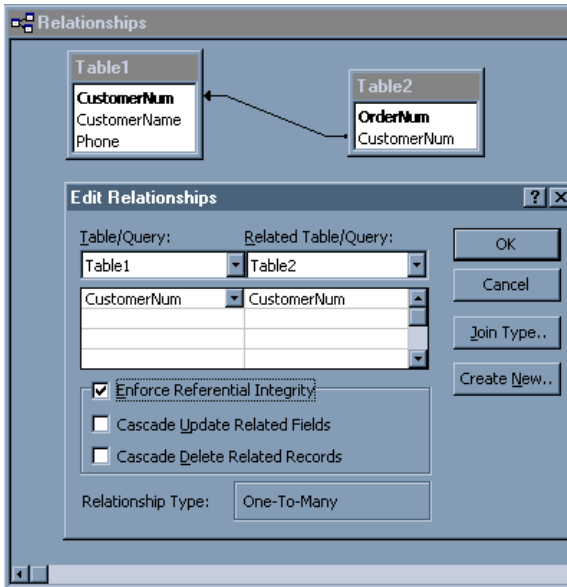
A. Open the Table2 and delete the orphan record.

Table2 : Table	
OrderNum	CustomerNum
1	1
2	2
3	3
*	

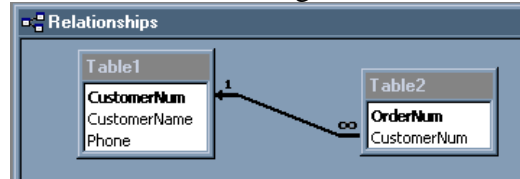
B. Table2 should look like the following.

Table2 : Table	
OrderNum	CustomerNum
1	1
2	2
*	

C. Go to the relationships Icon and set the Referential Integrity.



D. The relationships screen should look similar to the following.

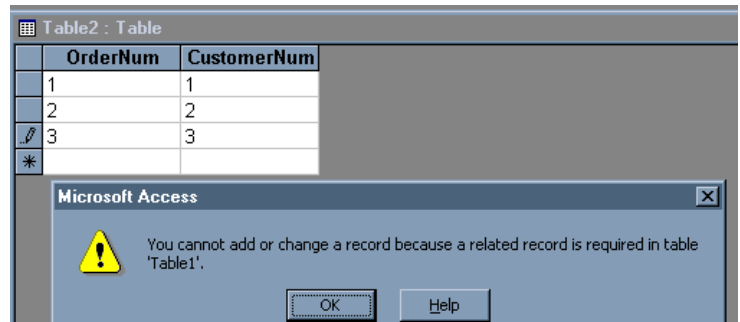


E. In order to test to see if the referential integrity worked properly.

Open the Table2

Table2 : Table	
OrderNum	CustomerNum
1	1
2	2
*	

F. Enter OrderNum=3 and CustomerNum=3



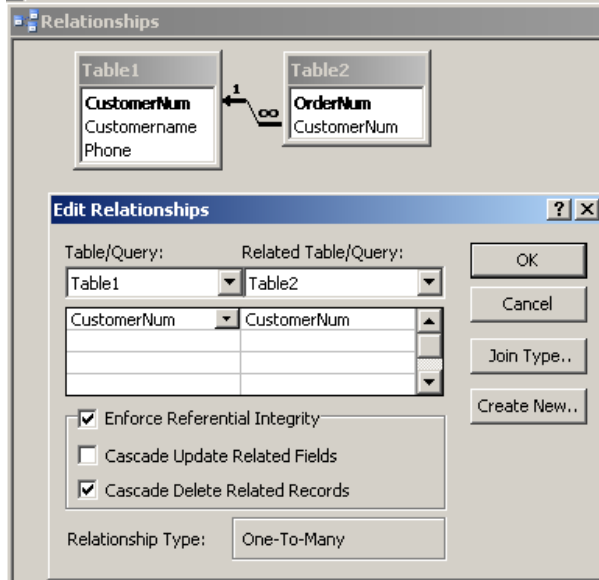
**Note: The Referential Integrity will not allow you to enter an Orphan record.**

### Conclusion Statement

“Referential integrity is a system of rules that Microsoft Access uses to ensure that relationships between records in related tables are valid, and that you don't accidentally delete or change related data.”

## Step 6 – Cascade Delete

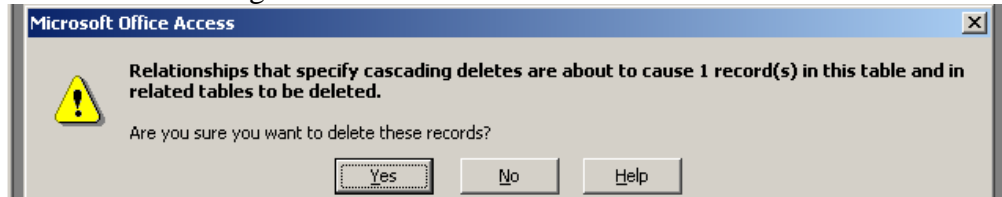
A. Go to the relationships Icon and set the Cascade Delete Related Records



B. Open Table1 and delete record 2

Table1 : Table			
	CustomerNum	Customername	Phone
+ 1		Jeff	1
+ 2		Jane	2
*			

C. The error message indicates it will delete all related records



D. The record in Table 1 is deleted

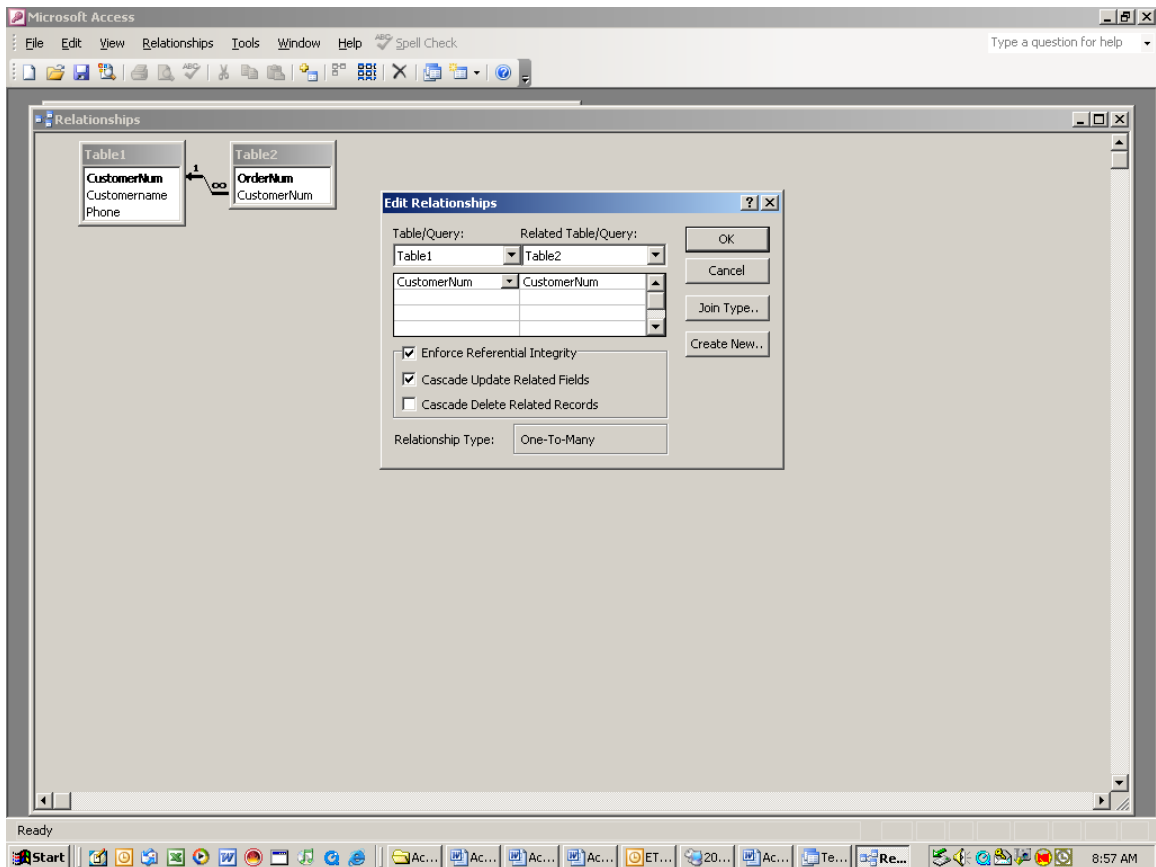
Table1 : Table			
	CustomerNum	Customername	Phone
+ 1		Jeff	1
▶			
*			

E. The related record in Table2 is also deleted

Table2 : Table		
	OrderNum	CustomerNum
▶ 1		1
*		

## Step 7 – Cascade Update Related Fields

- A. Open table1 and change the CustomerNum=1 to 101.  
You will receive the following error: “The record cannot be deleted or changed because table ‘Table2’ includes related records.”
- B. Go to the relationships Icon and set the Cascade Update Related Fields.



- C. Open table1 and change the CustomerNum 1 to 101.  
The relationship is now set up to allow Cascade Updates.