Identify

Problem:

Create a computerised relational database using Microsoft Access for a library close by because the library has too many papers and lose many of them, so they want a database that solves all their problems.

Users:

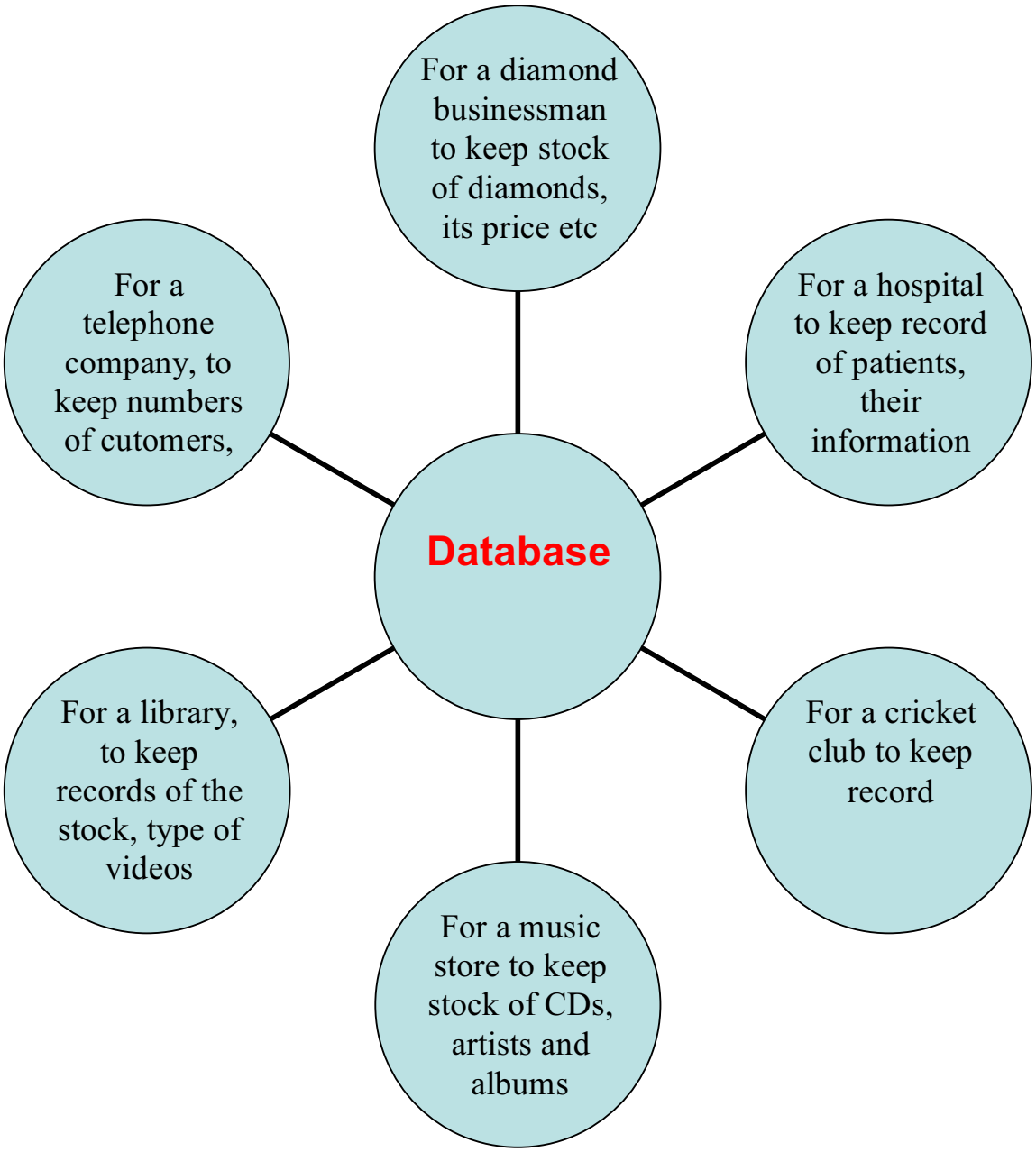
The Librarian will be going to use the database, and the assistance will also use it, the assistance might not be an expert so the assistance must take classes on how to use the database because it has to be used carefully. I will also make it user friendly

Objectives:

- Must have more than one table (entity) to create relationships
- Each table has a primary key to uniquely identify each record
- Each table is linked through primary/foreign keys
- The database will be 'normalised' so each table has its 'appropriate' data
- Create Forms to gather data/reduce mistakes
- Create Queries to search for data
- Create Reports to show the output from your queries
- Make database user friendly so it can be used
- To show the stock of the videos in the library
- Age group of videos

Alternative solutions:

I could have used a flat file database or Microsoft Excel but I used a Computerised relational database because if I use flat file database there will be lots of paper, too much space will be used unnecessarily and too much to carry. And I couldn't use Microsoft Excel because the librarian doesn't have that software so I used Microsoft Access.


For a diamond businessman to keep stock of diamonds, its price etc
For a telephone company, to keep numbers of cutomers,
For a hospital to keep record of patients, their information
Database
For a library, to keep records of the stock, type of videos
For a cricket club to keep record
For a music store to keep stock of CDs, artists and albums

Analyse

Software:
The database managing system is Microsoft Access and the desktop publishing is Microsoft Word in this very project.

Hardware:
In this project, I will use a Windows Based PC because all computers in School support them, I will also use a Printer to print out all evidence and paper work. I will also use a memory stick as a backup for my project so if it is lost I always have my memory stick.

Security:
For security I will save my work regularly so this would reduce the risk of it not being saved. I will also save it in several places for example: school computer, computer at home and USB. This will make sure I wont lose my work. I w ill also regularly print out pages of the project, this will assure the examiner I have done the project, and this will come very handy if all my work is lost.

Input method:
I will input data in design view using Microsoft Access to create tables, field s. And when my system will be complete, when I hand it over to my customers they will input data via the forms (in fields)

Output method:
The output is when you run a Query on a PC, its result or output will come onto a report, that is that is the output method.

Process:
When query runs it searches fro a database that is an example of a process.

Verify:

Verification is the process of checking that input data is correct. It is normally carried out by a human who visually compares the data with the sou rce document. To site check, is an example of verification. For example, to check that the fields work.

Validate:
Verification is the process of checking that input data is correct. It is normally carried out by a human who visually compares the data with the source document. Input masks, is an example of validation.

Questionnaire

1. What do you think I could improve in my hand drawn plans?

2. What do you think is good in my hand drawn plans?

3. Do you think my database looks user-friendly, if not why?

4. What do you think of the layout of my hand drawn plans?

5. Is the colour combination used good, is the style of the page good?

6. Overall, what do you think of the hand drawn plans, should I redo do them, or keep it as it is?

7. Out of a rating of 5 being the highest, what do you rate this database?

Test Plan

OBJECTIVES	TEST
• Must have more than one table (entity) to create relationships	I will check that the relationships work because if they work that means I have more than one table
• Each table has a primary key to uniquely identify each record	I will check that the primary key is working in Microsoft Access
• Each table is linked through primary/foreign keys	I will check that I connect the Invoice table with Customer and Video table and check it in E-R diagram
• The database will be 'normalised' so each table has its 'appropriate' data	I will check that each table has its own headings so that it is user friendly and will check it in design view
• Create Forms to gather data/reduce mistakes	I will open the forms and check if they work properly in Microsoft Access
• Create Queries to search for data	I will open the queries and check if they work properly in Microsoft Access
• Create Reports to show the output from your queries	I will open the reports and check if they work properly in Microsoft Access
• Make database user friendly so it can be used	I will ask people about my database by giving them a questionnaire, if they think it user friendly
• To show the stock of the videos in the library	I will check in my forms that there is a field for the stock of the videos
• Age group of videos	I will check in my forms that there is a field for age group of videos

Testing Table

Objectives	What should happen?	What actually happened?
1. Must have more than one table (entity) to create relationships	The tables should have relationships + must work	They worked as I expected them to
2. Each table has a primary key to uniquely identify each record	The table has a primary key, the main one	The tables didn't work because it had no primary key
3. Each table is linked through primary/foreign keys	The tables should be linked through primary keys	They worked as I expected them to
4. The database will be 'normalised' so each table has its 'appropriate' data	The tables should have its appropriate fields according to their table	They all had the appropriate fields
5. Create Forms to gather data/reduce mistakes	When I open the forms they should work and look like the ones as I designed them to be	They did work but did not like the ones I designed
6. Create Queries to search for data	When I open the queries they should work and look like the ones as I designed them to be	They worked as I expected
7. Create Reports to show the output from your queries	When I open the reports they should work and look like the ones as I designed them to be	They did work but did not like the ones I designed
8. Make database user friendly so it can be used	From user feedback they should tell me it's user friendly	From user feedback I got told that my database is user friendly
9. To show the stock of the videos in the library	When I open the library, there should be a field called Stock of Videos	There was not the field, which I wanted
10. Age group of videos	There should be a field called Age group of videos in video form	There was the field, which I wanted
11. To have a customized Switch board	When I open up database customized switch board should open up	A switch board did not open up

Evaluation of objectives

- **Must have more than one table (entity) to create relationships**

I kept more than one table, in order to input more data. Wit h more tables, there could be more forms. More different subjects, and so the database can be made. The main reason was so I can create relationships. The reason for the relationships are so I can relate or link the tables with each other. This is very helpful. For example: I can add the field name Customer_ID from the Customer form, and the field name Video_ID from the Video form to the Invoice from. In the end, I managed to achieve the objective.

- **Each table has a primary key to uniquely identify each rec ord**

Each table has to have a primary key to uniquely identify each record because without it the table would not work, they are also needed for relationships, if you want to create relationships between several tables. At first it did not work but later af ter many attempts I achieved the objective.

- **Each table is linked through primary/foreign keys**

All the tables are supposed to be linked through the primary/foreign keys or else they will not work. I did this on the E -R diagram and also did it on the database and I achieved the objective.

- **The database will be 'normalised' so each table has its 'appropriate' data**

I normalised the data, for each table. I did 3 normalisations. In the first one, I just kept any field names I thought would be useful in my datab ase. In the second one, I put them in tables and in third normalisation I took out the extra field names that were not relevant. Most of it was good; except one field name was wrong, I edited it and achieved the objective.

- **Create Forms to gather data/redu ce mistakes**

I created forms for the database so I can input data. Then I created them at first they did not work, but later I fixed them and achieved the objective.

- **Create Queries to search for data**

I created queries for the database so I can search for data and they worked the first time I tried. I achieved the objective.

- **Create Reports to show the output from your queries**

I created reports to show the output and it can be very helpful to the customer or librarian. At first when I created the reports, they were not same as my hand drawn plans, but then in edited them again and I achieved the objective.

- **Make database user friendly so it can be used**

I made the database user friendly so it is easy to navigate. And I achieved the objective.

- **To show the stock of the videos in the library**

I made the field name of stock of videos in the library, at first the field was missing but then I added the field name and achieved the objective.

- **Age group of videos**

To show the field name of age group of videos and I achieved the objective.

To have a customized switchboard

At start it did not open up, but then I achieved the objective.

Data Collection

In this project data will be collected in different kinds of forms. The invoice form, the customer form and the video form. The librarian will give the customer the customer form for him or her to fill in. For the invoice form and video form the librarian will be expected to fill in the data for those forms. There will also be reports and queries made for some the data.

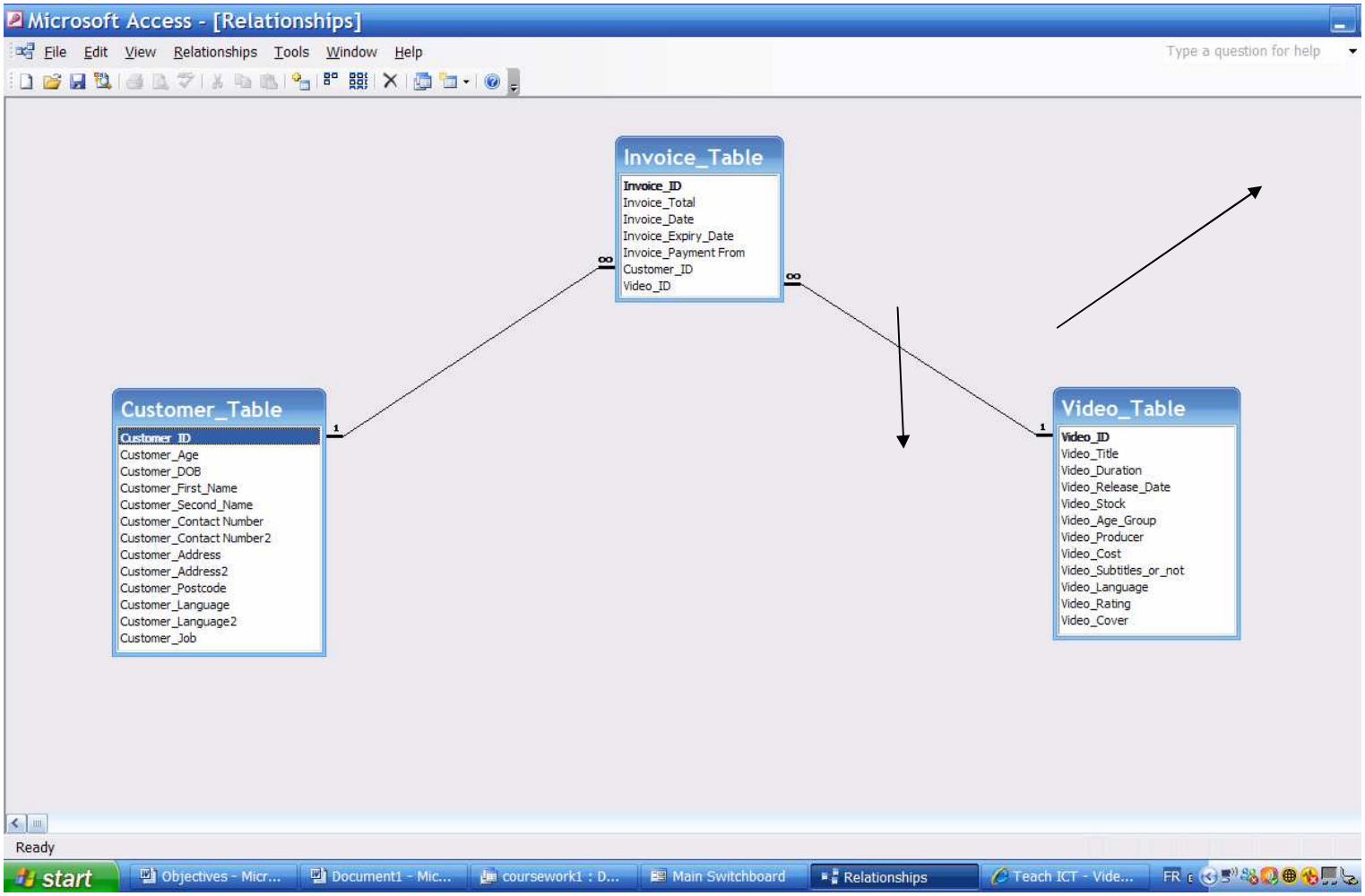
Designs Explained

I have kept my forms very user friendly so it easy for the librarian, the assistant and for the customer to use. For the forms I have kept a simple colour combination. In the forms, in the fields the background colour is yellow and the handwriting colour is blue because yellow and blue go well with each other, the colours are also bright and easy to read. For filling in the data, in those blocks the background colour will be red and the handwriting colour will be black because red and black are a good colour combination and will be easy to read. I have kept the handwriting size fairly big so it is easy for the customer and librarian to read or fill in. I have decided to use the font Arial because it is very clear and big. Also for the field names I have decided to keep them bold because they are very important. My reports are also very user friendly and attractive.

User feedback

From the user feedback I have decided to keep my hand drawn plans as my final designs because of the feedback I got. They have said everything in my hand drawn plans is good. They also said it is very user friendly, clear and the colour combination used goes very well together. However, one person said to add buttons and maybe an image. So I decided to add a video cover image and buttons to all my hand drawn plans.

Labelled test output



These ar
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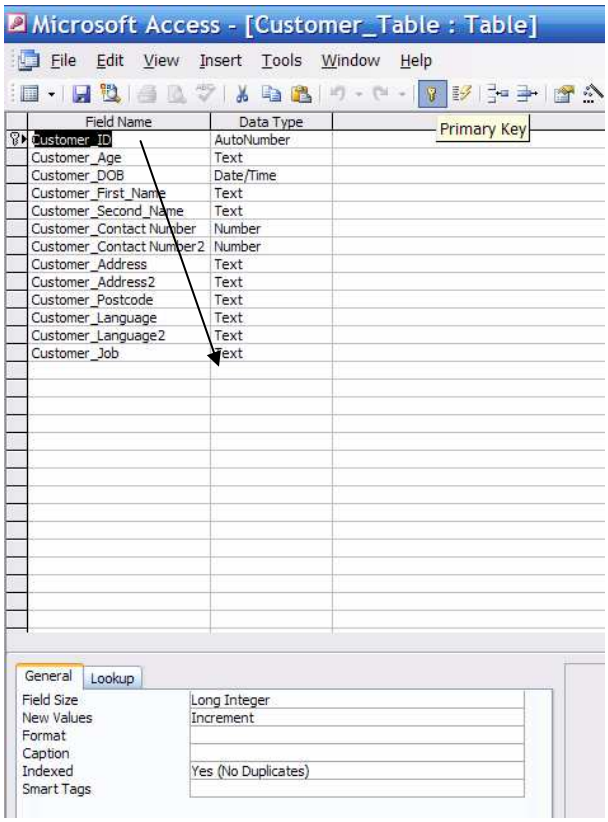
database

Now I can relate the invoice table to customer and video table because of the relationships I have created


Microsoft Access - [Customer_Table : Table]
File Edit View Insert Tools Window Help
Field Name
Data Type
Primary Key
Customer_ID
AutoNumber
Customer_Age
Text
Customer_DOB
Date/Time
Customer_First_Name
Text
Customer_Second_Name
Text
Customer_Contact Number
Number
Customer_Contact Number2
Number
Customer_Address
Text
Customer_Address2
Text
Customer_Postcode
Text
Customer_Language
Text
Customer_Language2
Text
Customer_Job
Text
General
Lookup
Field Size
Long Integer
New Values
Increment
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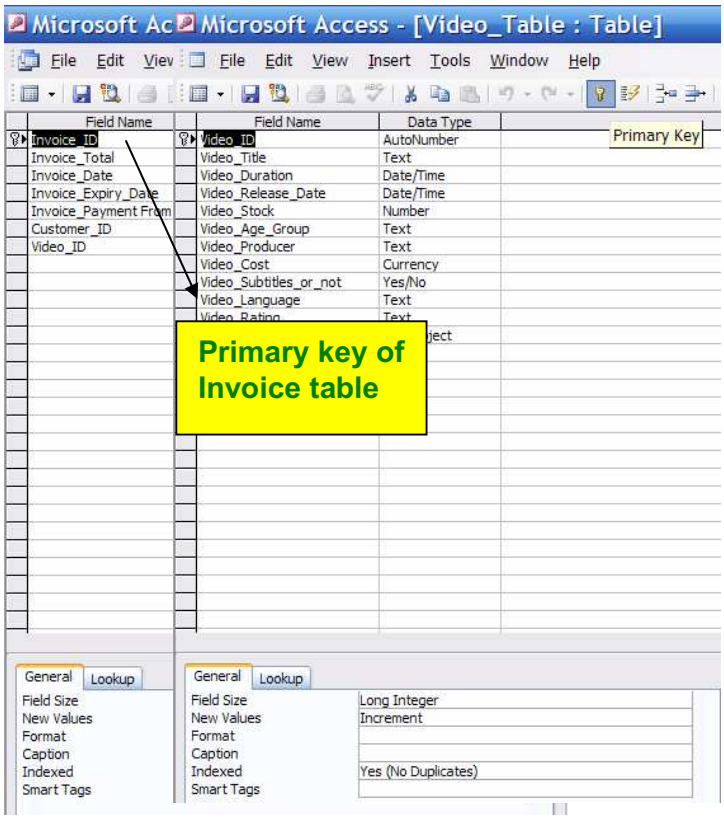
Caption
Indexed
Yes (No Duplicates)
Smart Tags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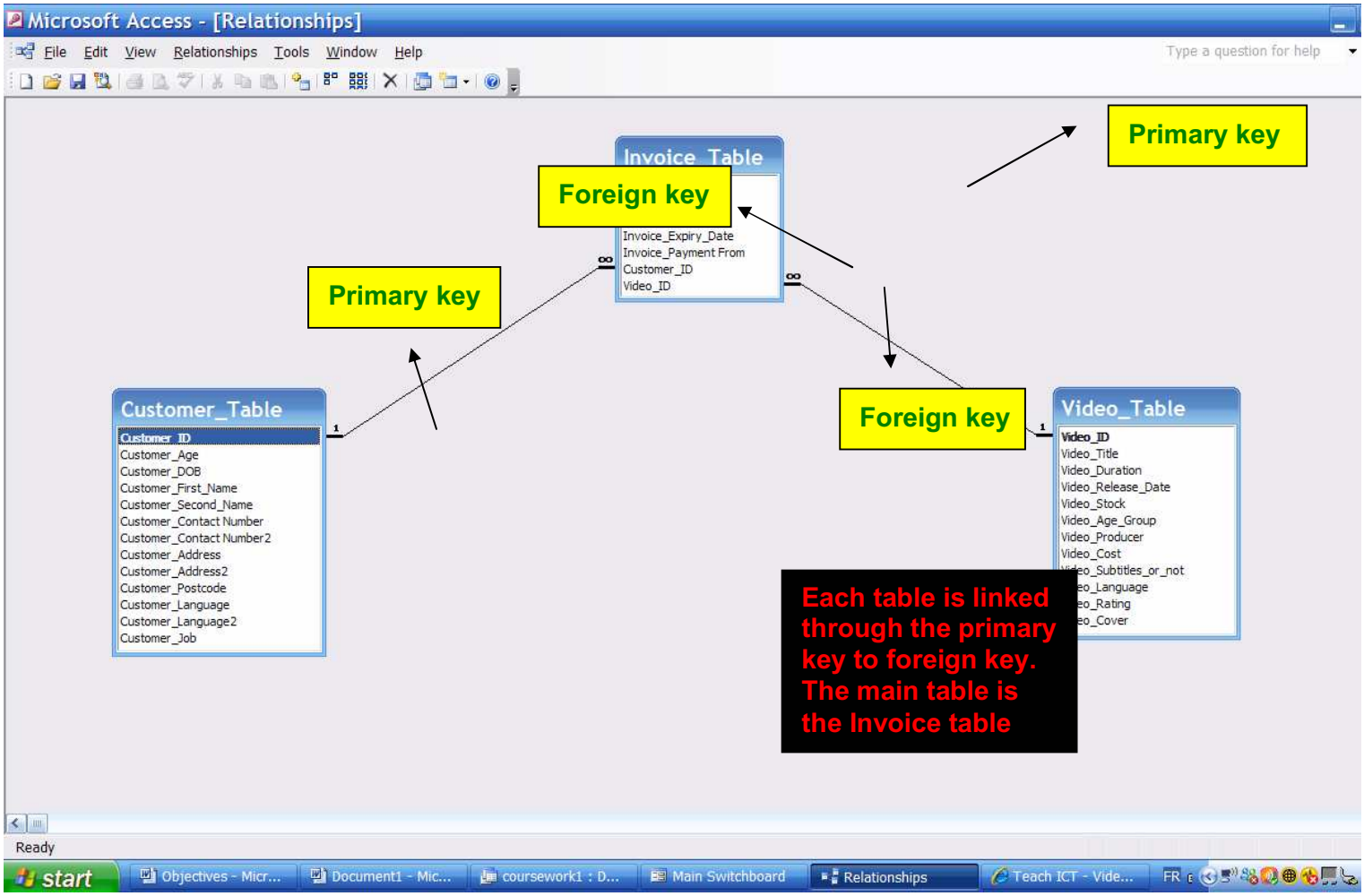
Microsoft Access - [Video_Table : Table]
File Edit View Insert Tools Window Help
Field Name
Invoice_ID
Invoice_Total
Invoice_Date
Invoice_Expiry_Date
Invoice_Payment From
Customer_ID
Video_ID
Field Name
Data Type
Primary Key
Video_ID
AutoNumber
Video_Title
Text
Video_Duration
Date/Time
Video_Release_Date
Date/Time
Video_Stock
Number
Video_Age_Group
Text
Video_Producer
Text
Video_Cost
Currency
Video_Subtitles_or_not
Yes/No
Video_Language
Text
Primary key of Invoice table
General
Lookup
Field Size
Long Integer
New Values
Increment
Format
Caption
Indexed
Yes (No Duplicates)
Smart Tags


Microsoft Access - [Relationships]
File Edit View Relationships Tools Window Help
Type a question for help
Primary key
Invoice_Table
Foreign key
Invoice_Expiry_Date
Invoice_Payment From
Customer_ID
Video_ID
Primary key
Customer_Table
Customer_ID
Customer_Age
Customer_DOB
Customer_First_Name
Customer_Second_Name
Customer_Contact Number
Customer_Contact Number2
Customer_Address
Customer_Address2
Customer_Postcode
Customer_Language
Customer_Language2
Customer_Job
Foreign key
Video_Table
Video_ID
Video_Title
Video_Duration
Video_Release_Date
Video_Stock
Video_Age_Group
Video_Producer
Video_Cost
Each table is linked through the primary key to foreign key. The main table is the Invoice table
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start
Objectives - Micr...
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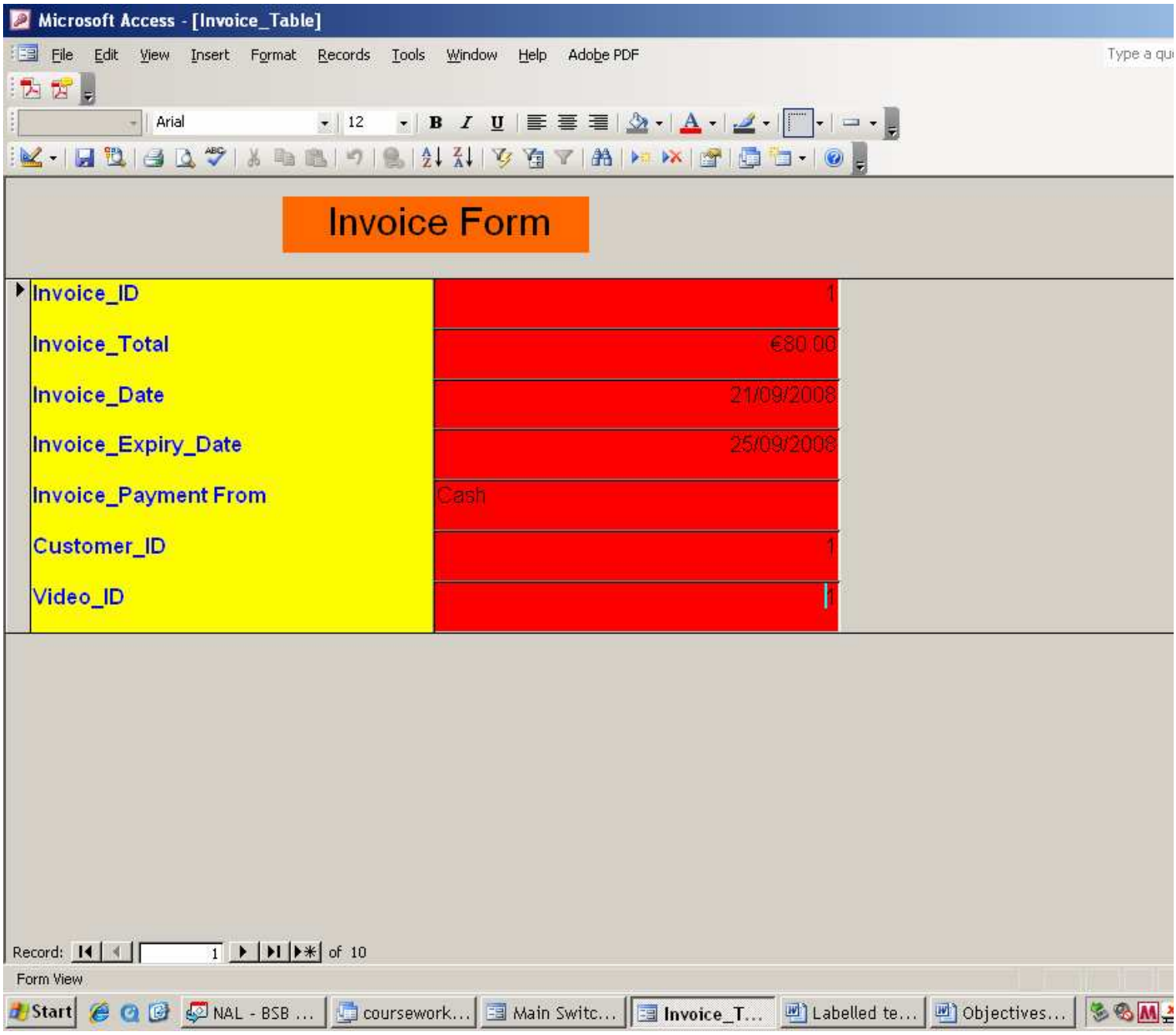
Microsoft Access - [Invoice_Table]
File Edit View Insert Format Records Tools Window Help Adobe PDF
Arial 12
Invoice Form
Invoice_ID 1
Invoice_Total €80.00
Invoice_Date 21/09/2008
Invoice_Expiry_Date 25/09/2008
Invoice_Payment From Cash
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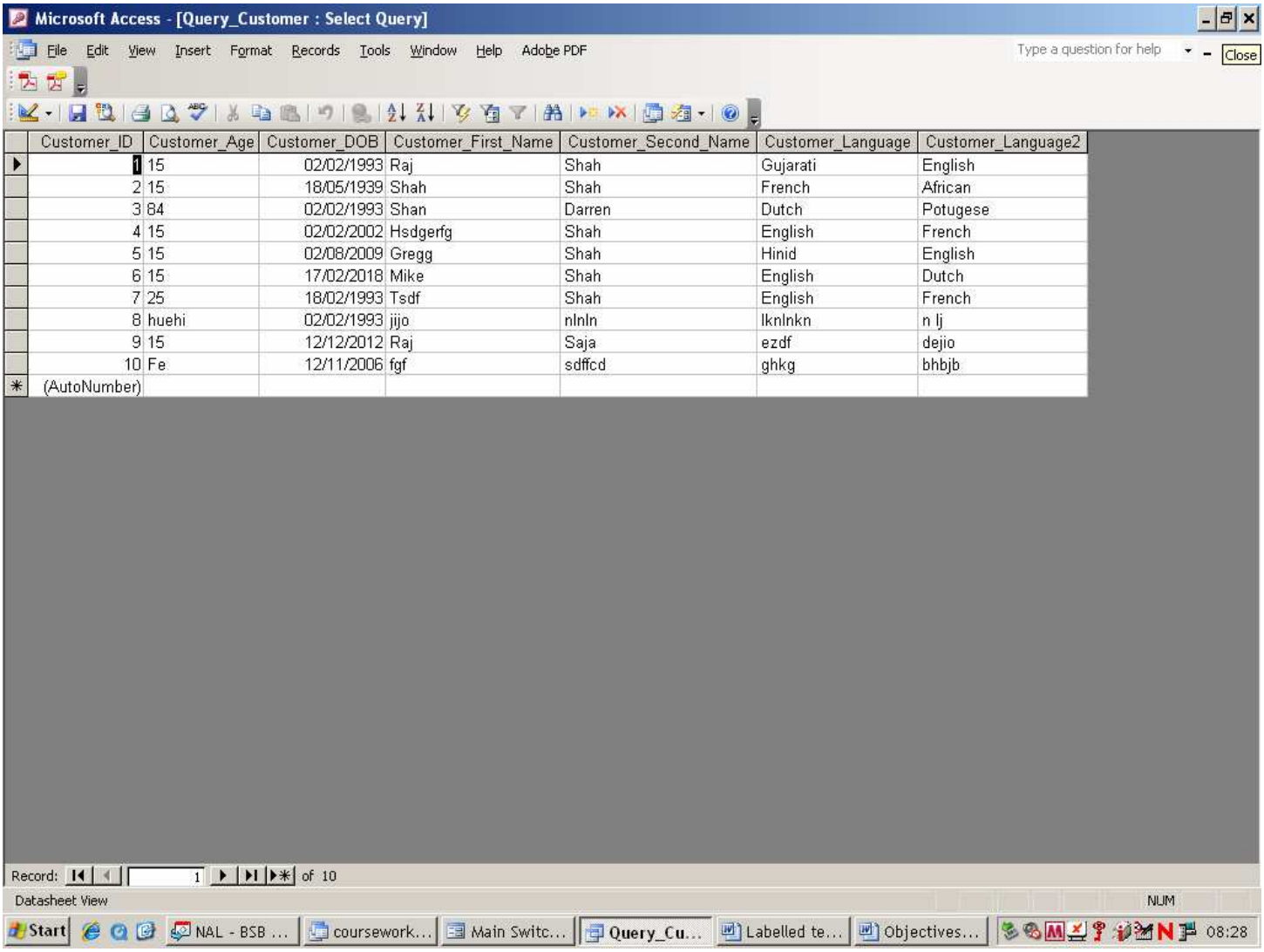
Microsoft Access - [Query_Customer : Select Query]
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Type a question for help
Close
Customer_ID | Customer_Age | Customer_DOB | Customer_First_Name | Customer_Second_Name | Customer_Language | Customer_Language2
1 | 15 | 02/02/1993 | Raj | Shah | Gujarati | English
2 | 15 | 18/05/1939 | Shah | Shah | French | African
3 | 84 | 02/02/1993 | Shan | Darren | Dutch | Potugese
4 | 15 | 02/02/2002 | Hsdgerfg | Shah | English | French
5 | 15 | 02/08/2009 | Gregg | Shah | Hinid | English
6 | 15 | 17/02/2018 | Mike | Shah | English | Dutch
7 | 25 | 18/02/1993 | Tsdf | Shah | English | French
8 | huehi | 02/02/1993 | jijo | nlnln | lknlnkn | n lj
9 | 15 | 12/12/2012 | Raj | Saja | ezdf | dejio
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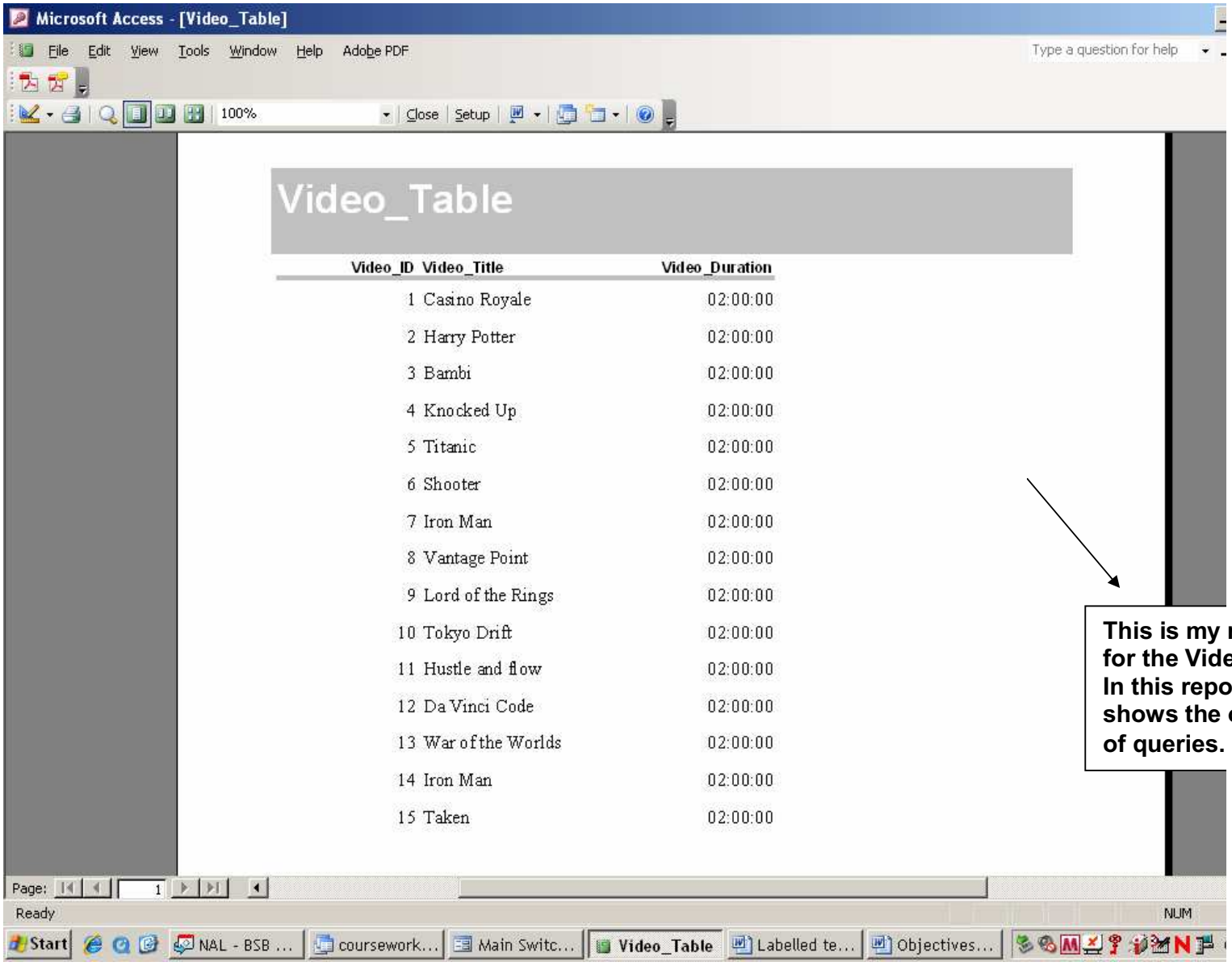
This is my Query for the Customer table, in this I can search for data within the database. For example: you can search for the second name Shah.



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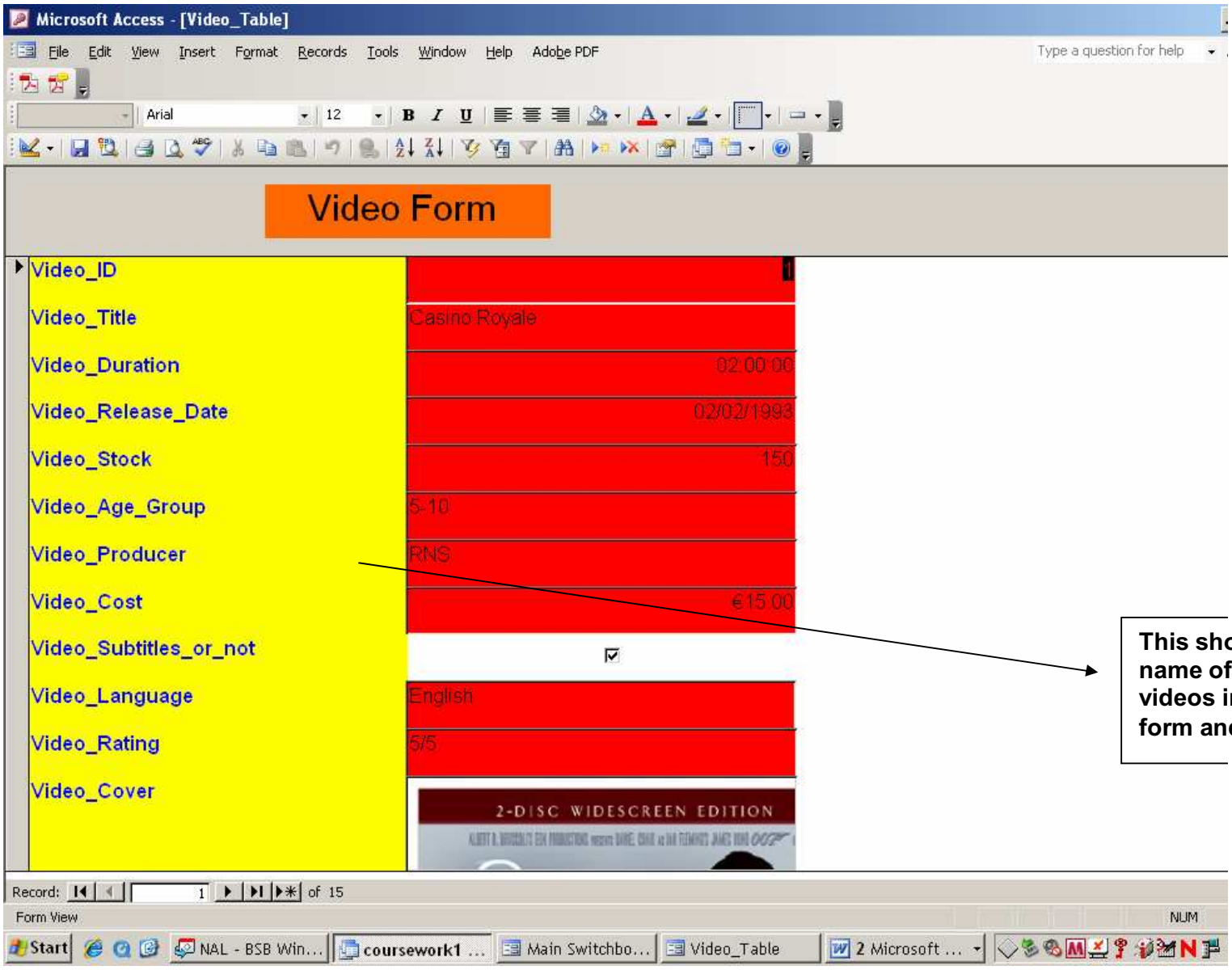
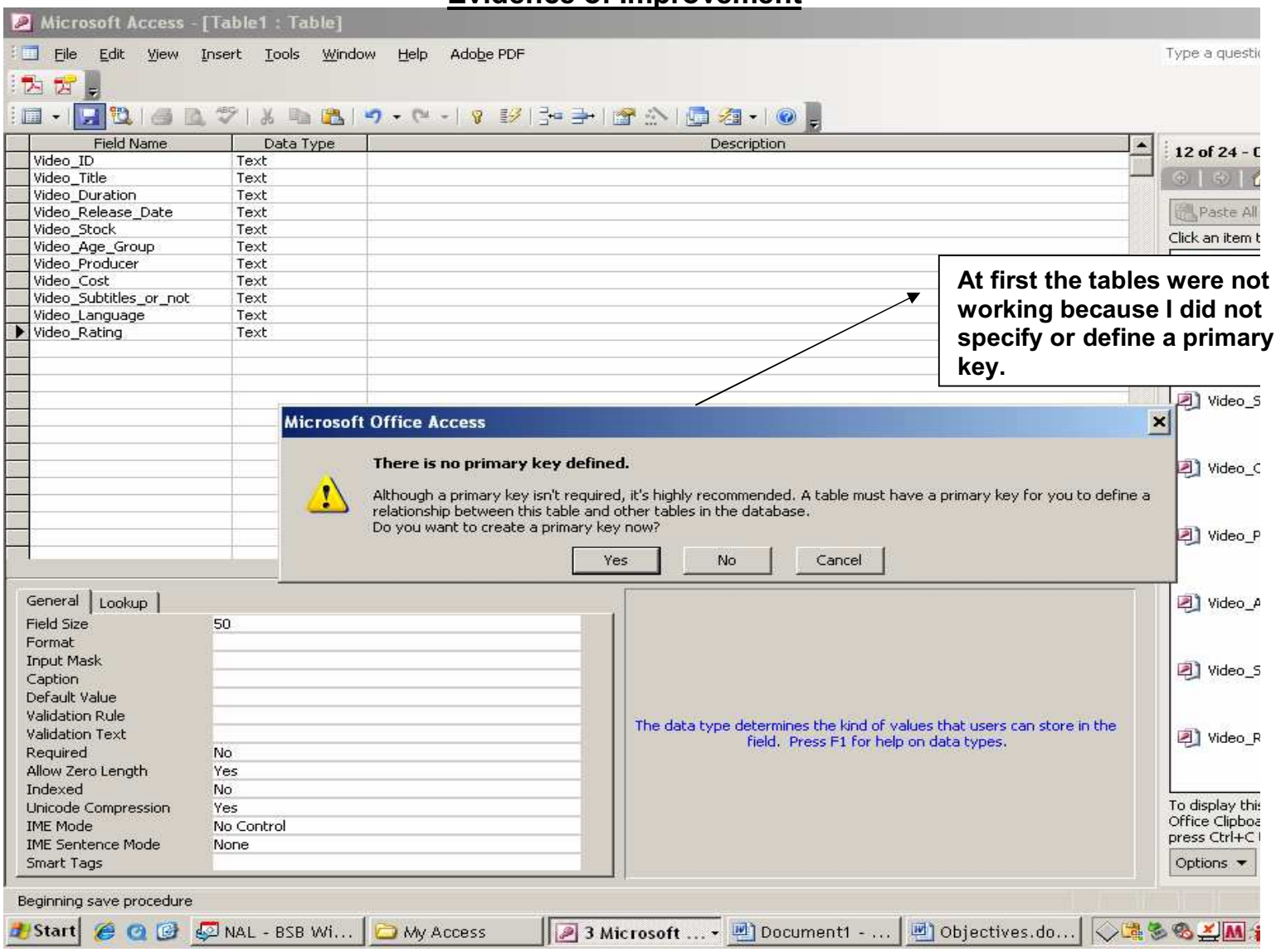
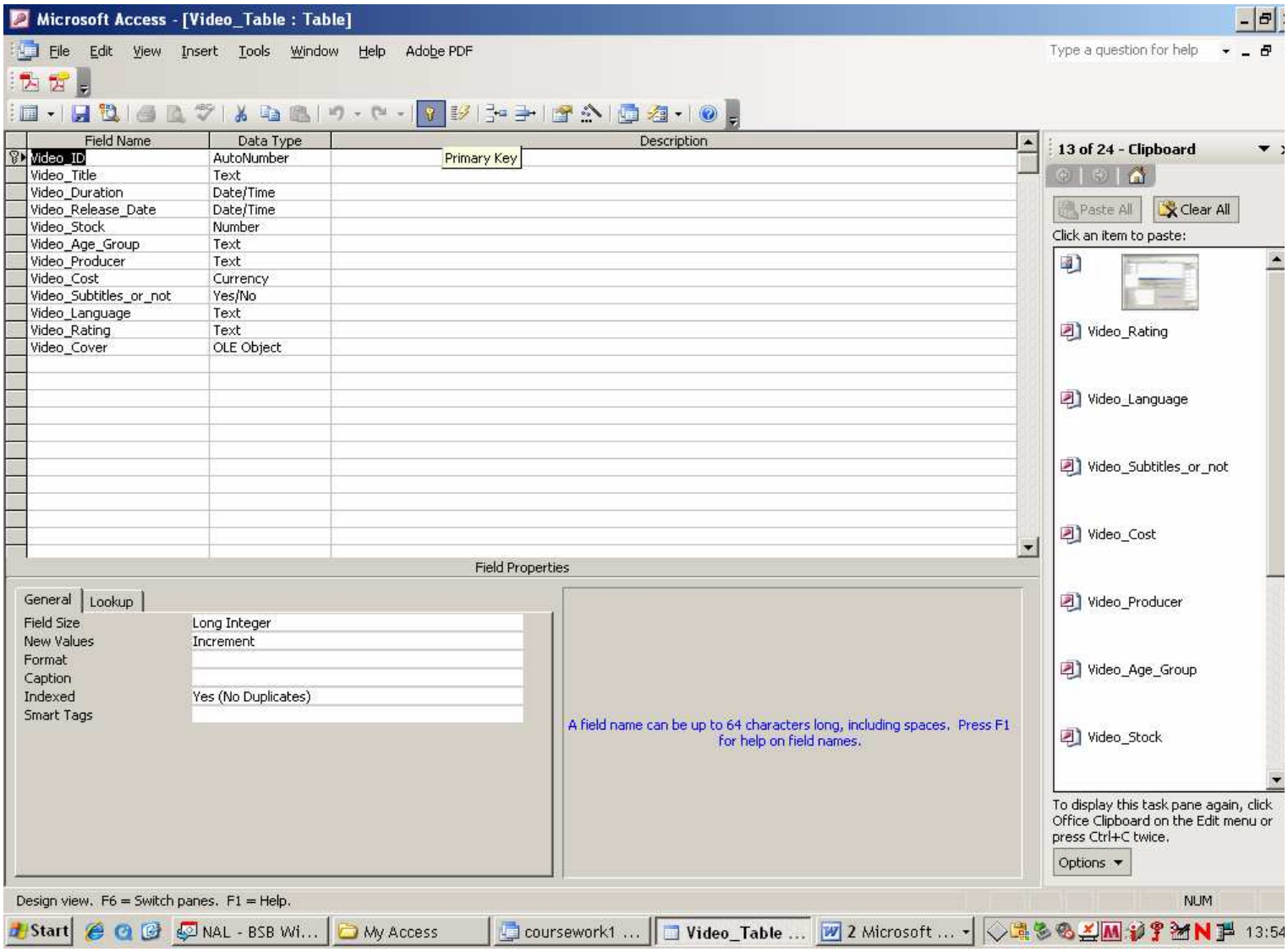


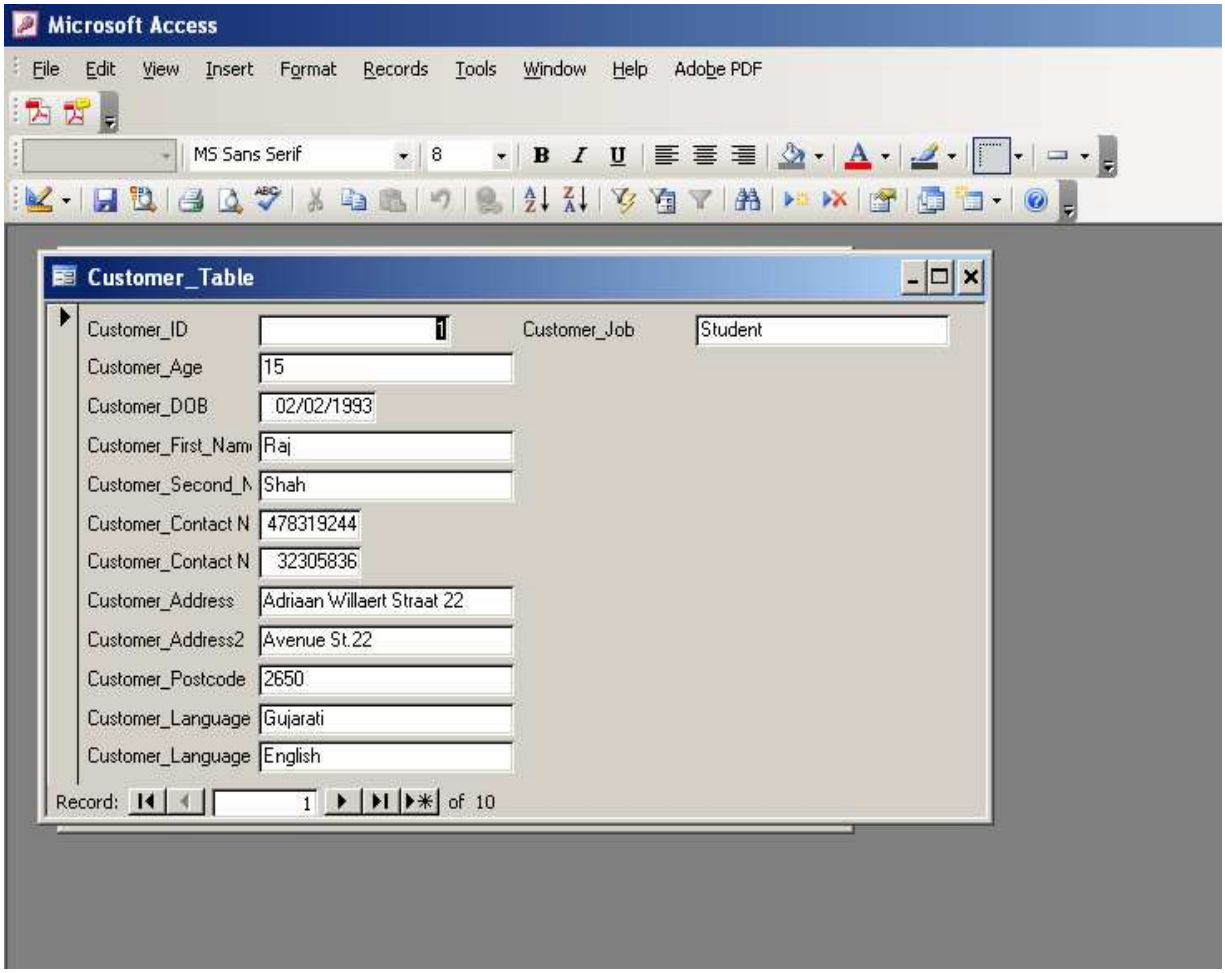
This shows name of sto videos in m form and is

Evidence of Improvement





So then I kept the field Video_ID as the primary key and as a result the tables started to work.


Microsoft Access
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8
Customer_Table
Customer_ID
1
Customer_Job
Student
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15
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02/02/1993
Customer_First_Nam
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Customer_Second_N
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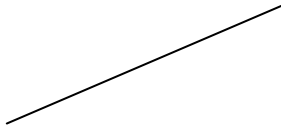

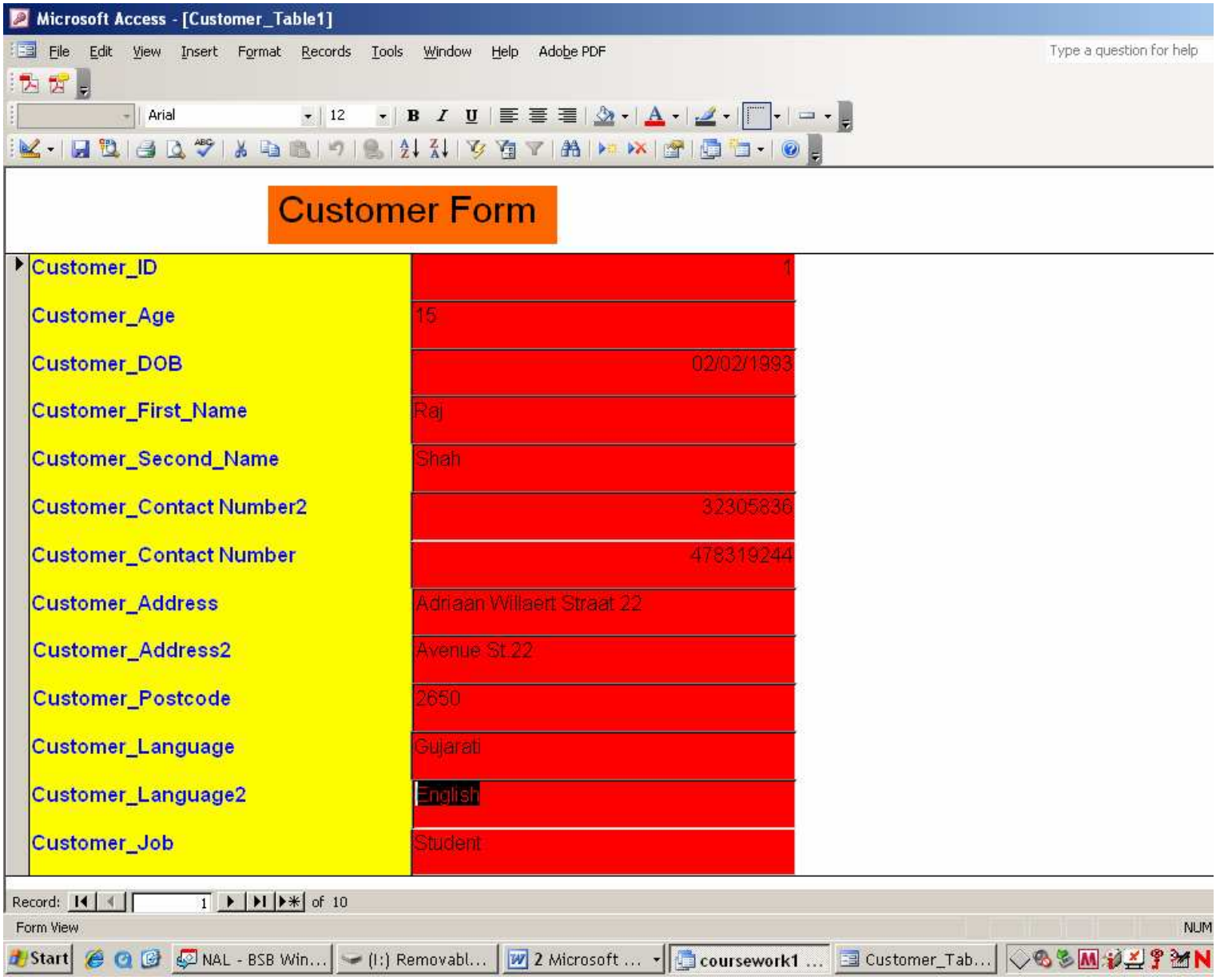

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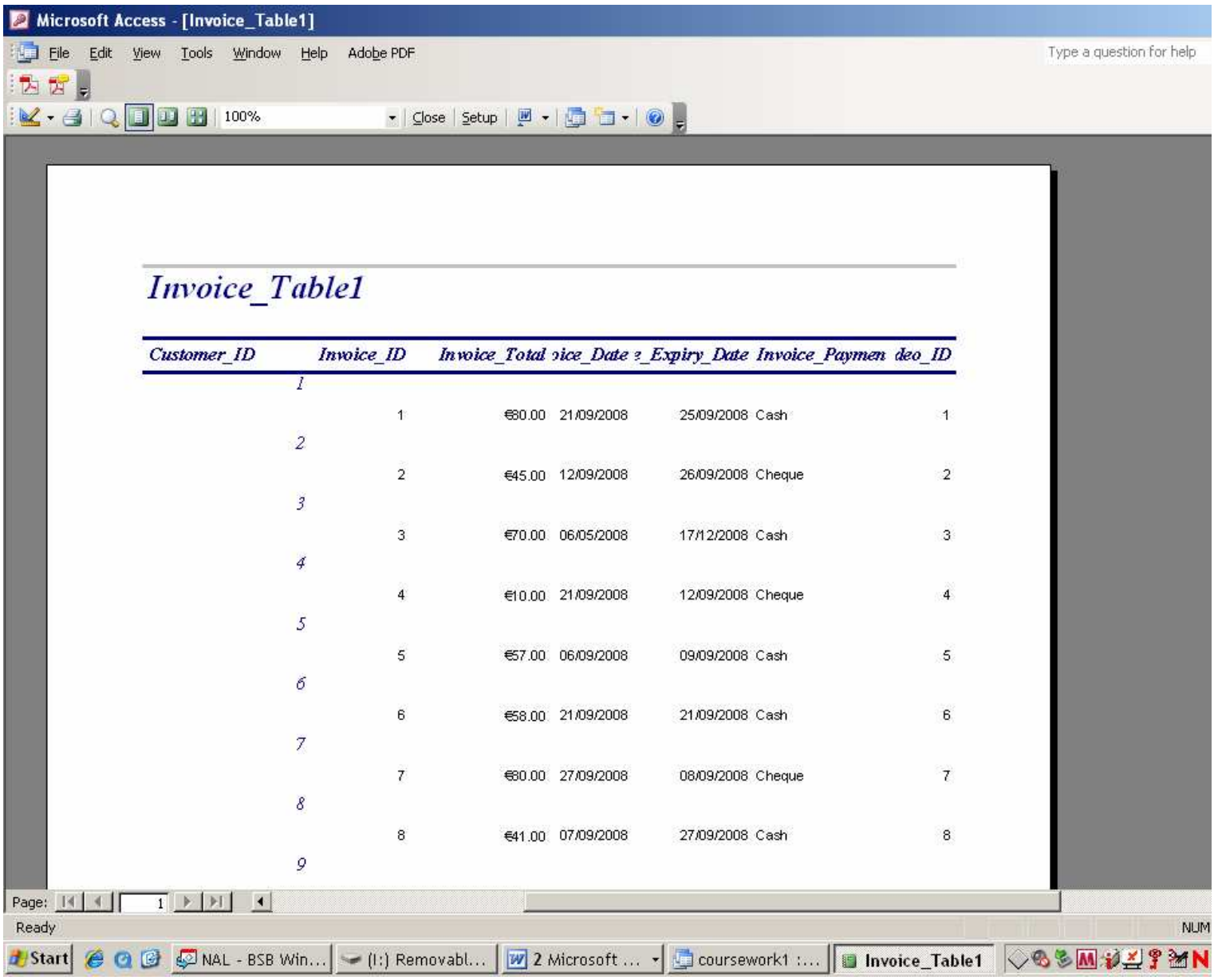
Microsoft Access - [Invoice_Table1]
File Edit View Tools Window Help Adobe PDF
Type a question for help
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Setup
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Customer_ID
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e_Expiry_Date
Invoice_Paymen
deo_ID
1
1 €80.00 21/09/2008 25/09/2008 Cash 1
2
2 €45.00 12/09/2008 26/09/2008 Cheque 2
3
3 €70.00 06/05/2008 17/12/2008 Cash 3
4
4 €10.00 21/09/2008 12/09/2008 Cheque 4
5
5 €57.00 06/09/2008 09/09/2008 Cash 5
6
6 €58.00 21/09/2008 21/09/2008 Cash 6
7
7 €80.00 27/09/2008 08/09/2008 Cheque 7
8
8 €41.00 07/09/2008 27/09/2008 Cash 8
9
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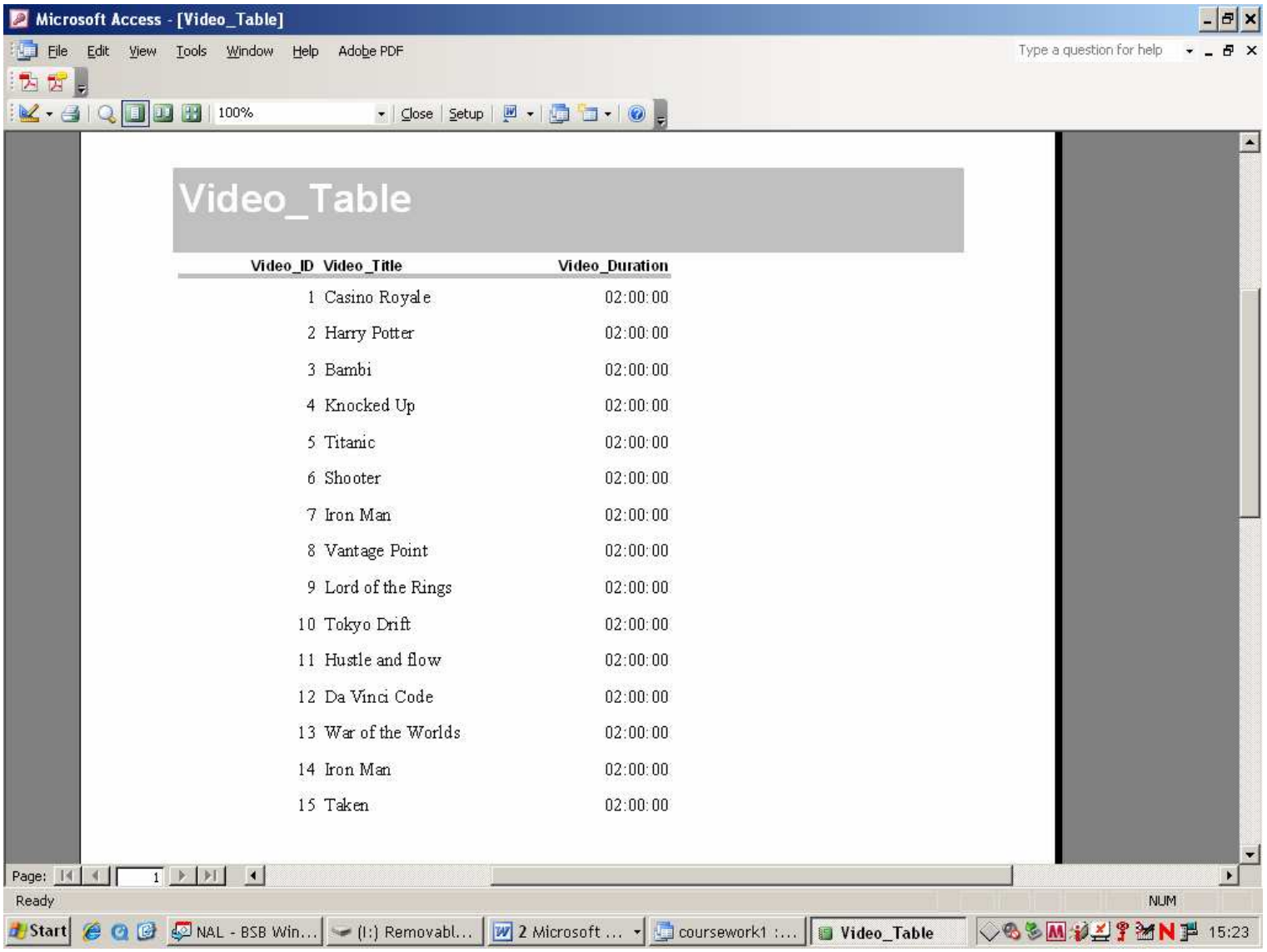
Microsoft Access - [Video_Table]
File Edit View Tools Window Help Adobe PDF
Type a question for help
100%
Close
Setup
Video_Table
Video_ID Video_Title Video_Duration
1 Casino Royale 02:00:00
2 Harry Potter 02:00:00
3 Bambi 02:00:00
4 Knocked Up 02:00:00
5 Titanic 02:00:00
6 Shooter 02:00:00
7 Iron Man 02:00:00
8 Vantage Point 02:00:00
9 Lord of the Rings 02:00:00
10 Tokyo Drift 02:00:00
11 Hustle and flow 02:00:00
12 Da Vinci Code 02:00:00
13 War of the Worlds 02:00:00
14 Iron Man 02:00:00
15 Taken 02:00:00
Page: 1
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Video_Table
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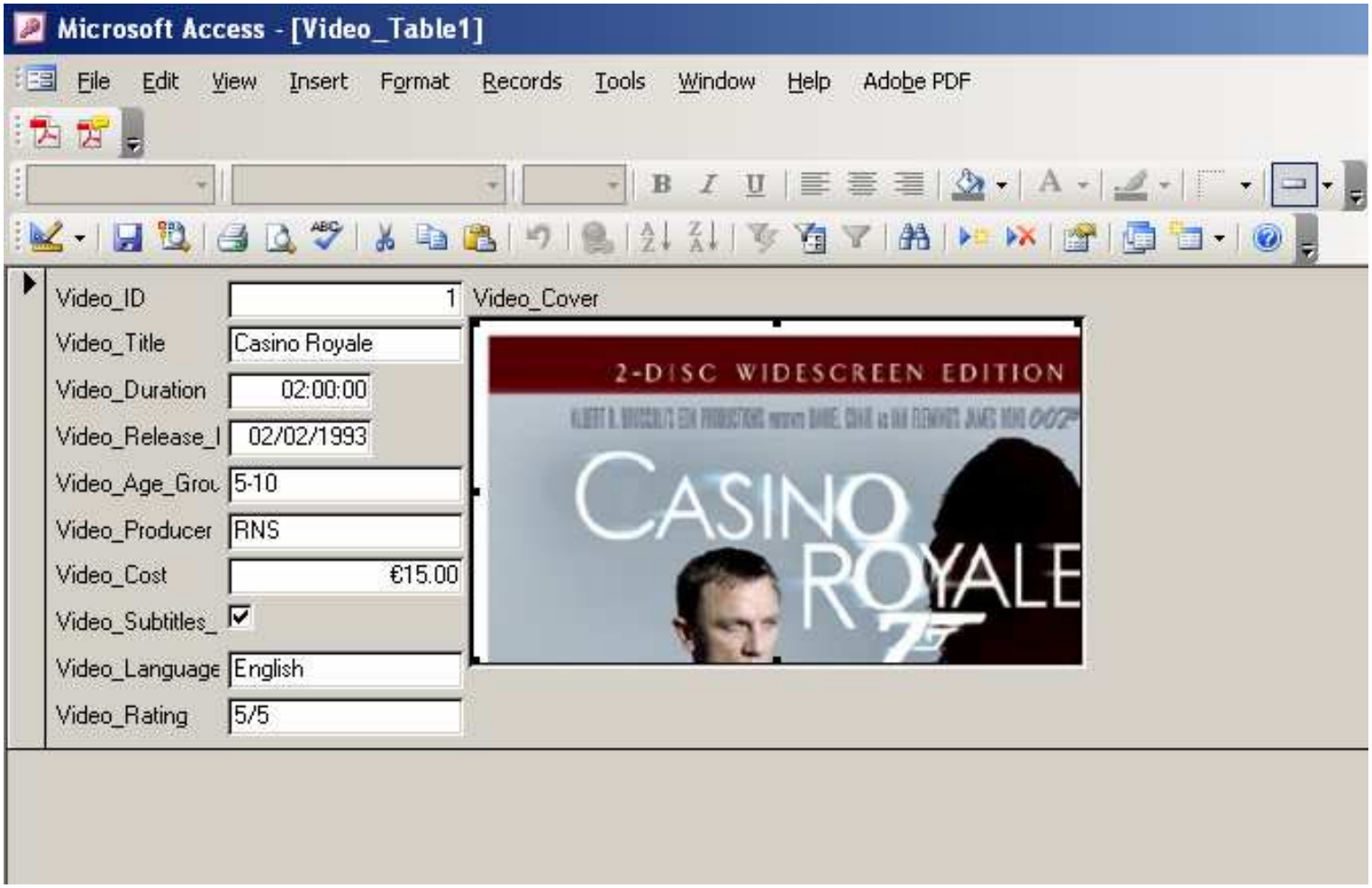
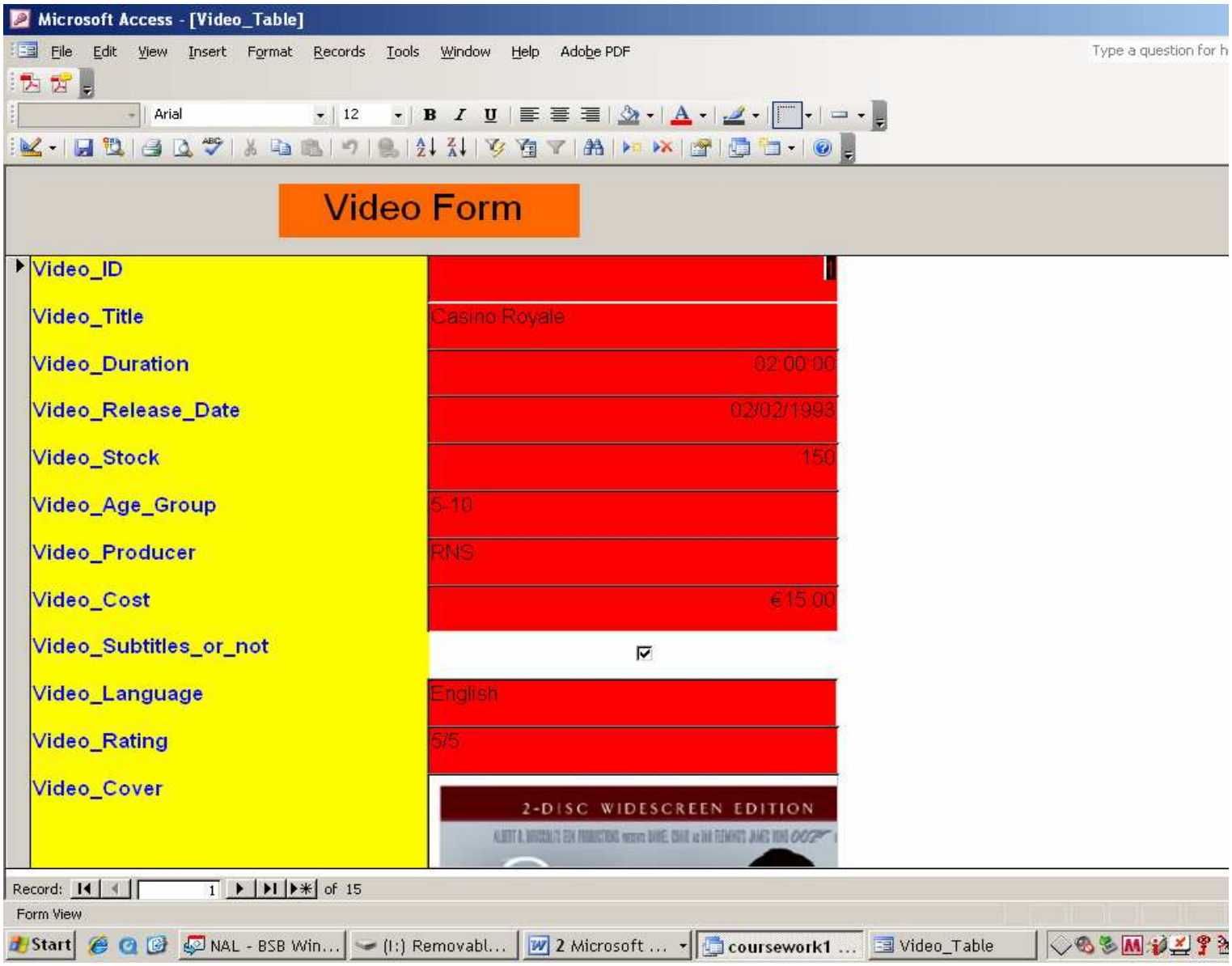
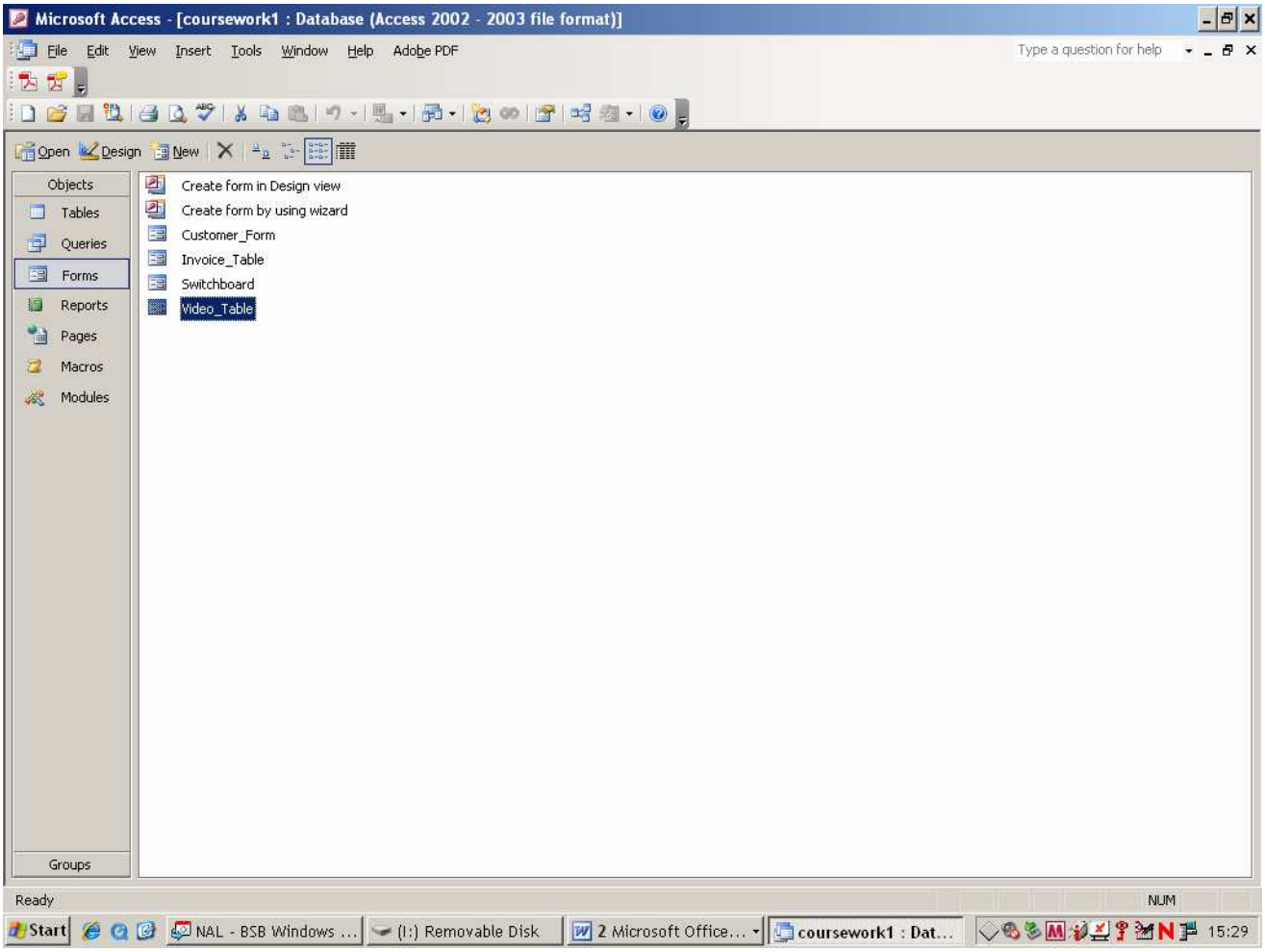


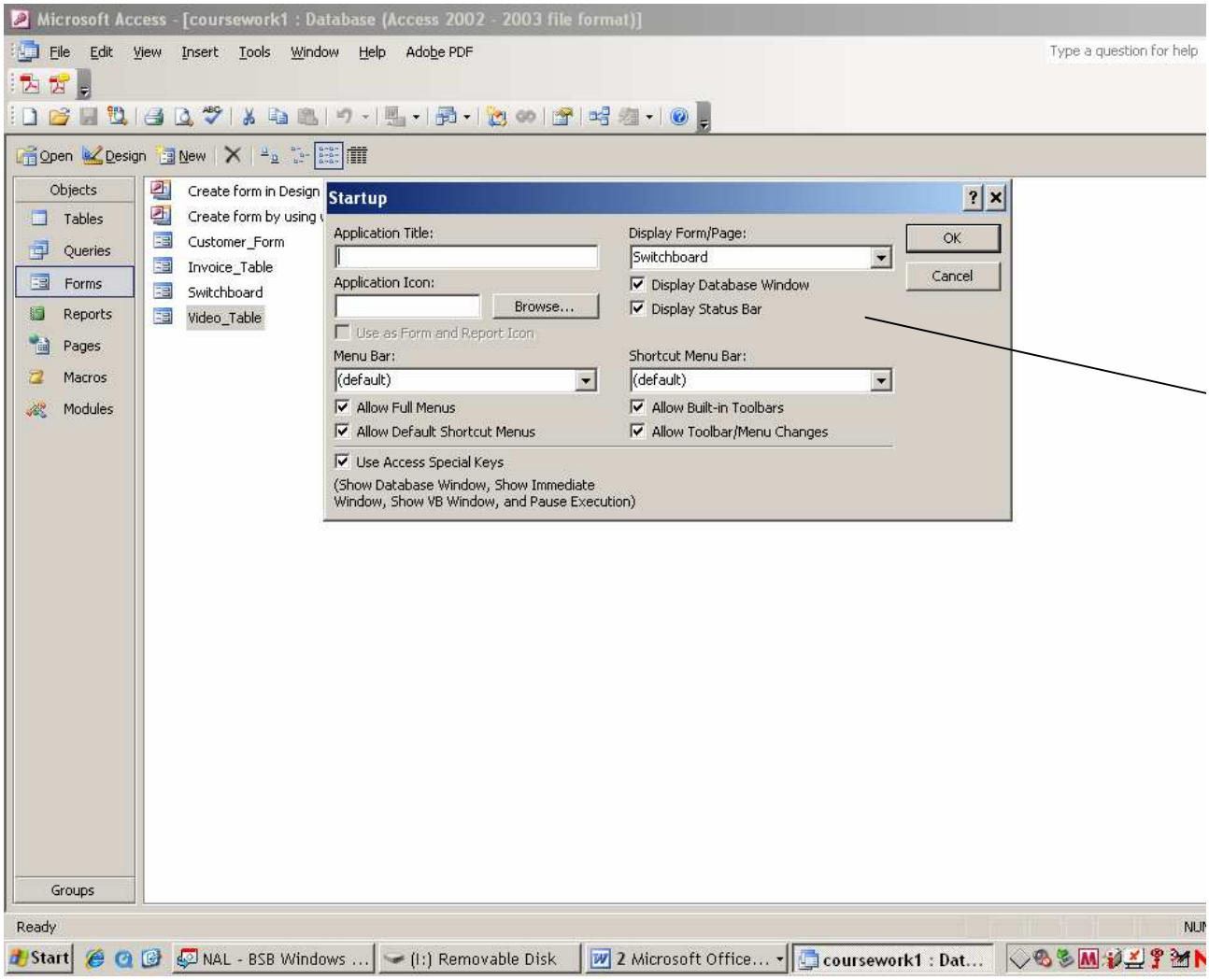
e was not the field name ock of videos in the o form.



I then ed and add name of videos.



wanted to make sure that I pen the database, the witchboard opens up with it, ut it did not happen.


Microsoft Access - [coursework1 : Database (Access 2002 - 2003 file format)]
File Edit View Insert Tools Window Help Adobe PDF
Type a question for help
Open Design New
Objects
Tables
Queries
Forms
Reports
Pages
Macros
Modules
Groups
Create form in Design
Create form by using
Customer_Form
Invoice_Table
Switchboard
Video_Table
Startup
Application Title:
Application Icon:
Browse...
Use as Form and Report Icon
Display Form/Page:
Switchboard
Display Database Window
Display Status Bar
OK
Cancel
Menu Bar:
(default)
Shortcut Menu Bar:
(default)
Allow Full Menus
Allow Default Shortcut Menus
Allow Built-in Toolbars
Allow Toolbar/Menu Changes
Use Access Special Keys
(Show Database Window, Show Immediate Window, Show VB Window, and Pause Execution)
Ready
Start
NAL - BSB Windows ...
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2 Microsoft Office...
coursework1 : Dat...