


# Introductory Exercises

## Database Exercises

www.tongatapu.net.to   
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### Description of the Booklet

This booklet is based on the “Introductory Database Exercises” book by Denise Pavic and Nelson Press.

The exercises have been modified to reflect the use of Microsoft Access, or Visual Database Tools.

The exercises in this booklet are broken into at most four different sections with the following aims:-

- a – Creating and Entering information into a database. This section develops skills in creating a database file, creating the database table structure, browsing the database and printing the database table.
- b – Entering, and Editing information into a database. This section develops skills in modifying a database by editing, changing, adding records, changing the table structure and printing the database table.
- c – Standard Custom Views of Information in a Database. This section develops skills in retrieving information by listing, displaying, searching for specific conditions, summing, counting, averaging and locating specific records.
- d – Standard Custom Views of Information in a Database. This section develops skills in sorting, indexing, copying data, deleting and renaming.
- e – Standard Reports generated from data in the Database. This section develops skills in creating standard reports.

Sample Solutions are maintained on the network server, verify with your instructor the location on the server for the files.

## Sources and References:

Pavic, Denise, Introductory Database Exercises, Nelson Press

<http://www.tongatapu.net.to/compstud/> - Computer Studies Course Notes

<http://www.tongatapu.net.to/extern/mspress/msaccess> – Access Textbook

<http://www.tongatapu.net.to> - **Tonga on the 'NET**

<http://www.tongatapu.net.to> is available on all networked computers at Queen Salote College.

Queen Salote’s SchoolNET Website does not require Internet access as it is not connected to the world wide Internet but uses the same technology within Queen Salote College and participating schools.

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## Unit 1

# Airline

### Exercise 1

We have been hired by a small airline operating three different flights, to help them keep track of their passenger bookings. To keep a record of who has paid for their seats and how we will first take a look at putting together a database.

1. Create a database file called **Country Airlines**
2. In this database, create a table called **Flight Reservations**, with the below data structure.
  - Use “Design View”

<i>Field Name</i>	<i>Data Type</i>	<i>Field Size</i>	<i>Format</i>	<i>Decimal Places</i>
Passenger	Text	20		
Flight_No	Number	Integer		
Date	Date/Time		Medium	
Payment	Text	8		

- Let Access create a Primary Key.
3. Enter the following details into the database file.
    - Jane Bob, 421, 4 October, Visa
    - Stein Frank, 303, 4 June 1990, Cash
    - Temple Shirley, 421, 4 October 1990, Check
    - Bear Edward, 421, 4 October 1990, Visa
  4. Check your database records.

## Unit 2

# Ratings

### Exercise 2

1. Create a database called “Television Ratings”
2. Create a table in the database called Programming, with the following data structures.
  - Use “Design View”
  - Let Access create a Primary Key.

<i>Field Name</i>	<i>Data Type</i>	<i>Field Size</i>	<i>Format</i>	<i>Decimal Places</i>
Channel	Number	Byte		
Program	Text	16		
Day	Text	8		
Time	Date/Time	Short Time		
Length	Number	Byte		
Rating	Number	Single		2

3. Enter the following data into your database
  - 7, CNN World Report, Mon-Fri, 18:00, 60, 8.25
  - 7, Superbook, Mon-Fri, 09:00, 60, 7.55
  - 7, MacGyver, Monday, 19:30, 30, 9.65
  - 7, Chuck Swindoll, Fri, 17:00, 60, 7.99
  - 3, Monday Night Movies, Mon, 19:00, 120, 8.35
4. Check your database.

## Unit 3

# Tennis

### Exercise 3a

1. Create a database file for the local tennis club of those members playing weekend competition this season. Call your database file “**Tennis**”. Each record in the file will contain the fields; Last Name, First Name, Street, Suburb, and paid.
2. Create a new table in your database called “**Members**” and enter the record structure listed below:
  - Use “Design View”
  - Let Access create a Primary Key.

<i>Field Name</i>	<i>Data Type</i>	<i>Field Size</i>	<i>Format</i>	<i>Decimal Places</i>
Last Name	Text	32		
First Name	Text	32		
Street	Text	50		
Suburb	Text	25		
Paid	Yes/No			

3. Enter the following data into your database.
  - Pakos, Mario, 1 Garter Street, Hamilton, Paid
  - Maxell, Sam, 29 Elm Road, Croydon, Not Paid
  - Spaghetti, Jane, 3 Freda Avenue, Richmond, Paid
  - Peterson, Sue, 8 George Street, Windsor, Paid.
4. Check your database table.
5. Print your file.

### Exercise 3b

6. Make the following changes to the table.
  - Sam Maxell has sprained his ankle and is out for the season. Delete his name from the database.
  - Sue Peterson’s husband Peter, has taken Sam Maxell’s place in the team. His club fees are still owing for the season. Add his name and details to the table.
  - Modify the structure of the table to include the field name GRADE. Add the grade for each player as listed below:
    - Mario Pakos           C Grade
    - Jane Spaghetti       F Grade
    - Sue Peterson          B Grade
    - Peter Peterson        A Grade
7. Check your table
8. Print your file

### Exercise 3c

9. Create a query named “qryRecords” to list the Last Name, First name and grade for all records.
10. Create a query named “qryRecords2” to list the Last Name, Street, Suburb, and Paid for all records.
11. Create a query named “qryPayment” to list the First Name, and Paid for all records.
12. Create a query named “qryPaymentNot” to list the Last Name, First Name for all records that have not paid.
13. Create a query named “qryAGrade” to list the People playing A Grade.
14. Create a query named “qry” that lists all people playing F Grade and live in Richmond

### Exercise 3d

*Choose a name for the query, make your choice of names descriptive of the task the query is to perform.*

15. Create a query to Sort on Last name
16. Create a query to Sort first on the Last Name, and then Sort on the First Name.

### Exercise 3e

*Choose a name for the report, make your choice of names descriptive of the task the report is to perform.*

17. Create a report that Lists all records. The report should be titled “Club Members” *(do not use quotation marks)*
18. Create a report that includes only the Member’s names and address. The report should be titled “Member Homes”  
*(do not use quotation marks)*

## Unit 4

# Supplier

### Exercise 4a

You work for Landers Manufacturing Pty Limited who enter their accounts payable into a database file. The file contains a number of suppliers from whom they regularly purchase goods.

1. Create a database file called "Landers Manufacturing Pty. Ltd." with table called "Suppliers" with the following fields.

<i>Field Name</i>	<i>Data Type</i>	<i>Field Size</i>	<i>Format</i>	<i>Decimal Places</i>
Bill Date	Date			
Amount	Numeric	Currency		2
Supplier	Text	17		
Address	Text	15		
Suburb	Text	12		

2. Enter the following bills outstanding for 1990. Expand all abbreviations.

<b>Bill Date</b>	<b>Amount</b>	<b>Supplier</b>	<b>Address</b>
• 6 Sep 90	633.50	Aus Ice Co	3 Pole Street, Franskton
• 6 Sep 90	8546.28	Tomray Pty Ltd	466 Peak Way, Box Hill
• 16 Sep 90	2977.67	Maya & Partners	25 Kean Road, Somerville
• 3 Oct 90	624.88	Monotek Micros	87 Fossil Road, Burwood
• 12 Oct 90	6399.00	Aus Ice Co	3 Pole Street, Franskton
• 8 Nov 90	749.38	Monotek Micros	87 Fossil Road, Burwood
• 20 Nov 90	232.11	Monotek Micros	87 Fossil Road, Burwood
• 20 Nov 90	3222.22	Maya & Partners	25 Kean Road, Somerville
• 30 Nov 90	129.99	Tomray Pty Ltd	466 Peak Way, Box Hill

3. Check your table for accuracy
4. Print your file

### Exercise 4b

5. Make the following changes

- Monotek Micros changed its address to 1 Wells Street, Frankston, on 15 November 1990
- Maya & Partners are located at 52 Kean Road, Somerville
- Amend Aus Ice Co bill dated 12 October 1990 to \$7498.76 as 1 box of goods was damaged and returned
- The bill dated 6 September 1990 for \$633.50 should be dated 26 September 1990
- Tomray Pty Ltd became a public company on 1 October and is now known as Tomray Ltd

6. Add December's bills to the file. Expand all abbreviations. Details are:

<b>Bill Date</b>	<b>Amount</b>	<b>Supplier</b>	<b>Address</b>
• 5 Dec 90	\$1000.00	Tomray Ltd	466 Peak Way, Box Hill
• 17 Dec 90	\$ 999.99	Monotek Micros	1 Wells Street, Frankston

7. Check your table for accuracy
8. Print your table.

## Exercise 4c

*Choose a name for the query, make your choice of names descriptive of the task the query is to perform.*

9. Create and save a query to list only the Bill Date and Supplier.
10. Create and save a query to list of the Vendors and their Address.
13. Create a query to display those bills dated before October 1990.
12. Create and save a query to list those Vendors who are owed more than \$1000.00
  
10. Create and save a query to Total the outstanding bills payable by the company for 1990
11. Create and save a query to Sum the amount still owing to each Vendor for 1990
14. Create a query to count those bills owing to Monotek Micros

## Exercise 4d

15. Rename the table to "Payable"

## Unit 5

# Birthday

### Exercise 5a

You have decided to create a database of your friends' names (first name and last name) and their birthdays.

1. Create a database file called "**Friends and Relations**"
2. Create a new table in your database called "**Birthday**"
  - Use "Design View"
  - Let Access create a Primary Key.

<i>Field Name</i>	<i>Data Type</i>	<i>Field Size</i>	<i>Format</i>	<i>Decimal Places</i>
Last Name				
First Name				
Birthdate				
Notes	Memo			

3. Input the following names into your database table (OR add the names and birthdays of the class.)
  - Minoghue, Kylie, 9 November 1981, Loves scorched almonds
  - Fox, Brenton, 31 August 1970
  - Dimitrios, Effie, 25 February 1935, Wears size 12
  - Reitson, Mary, 27 February 1988
  - Knotts, Donald, 5 April 1956
  - Page, Joan, 3 May 1960, Dislikes Roses
  - Tan, Lanny, 6 January 1980
4. Check your table to make sure all the data has been entered correctly
5. Print out the contents of the table

### Exercise 5b

6. Make the following changes to the database.

Add these names to your file:

  - Adams, Gomez, 3 March 1968
  - Munster, Herman, 8 September 1944
  - Parton, Dolly, 6 January 1980
7. Some mistakes were made when entering the information into your database. Make the following corrections.
  - Kylie Minogue is the correct spelling of Kylie's name, not Minoghue
  - Mary Reitson was born in 1955
  - Brenton Fox prefers to be known by his nickname, Jack. Change his record to read Jack Fox.
8. Modify the table structure to add the field "**Star Sign**" Enter the star sign for each person in your database.

The Star Signs are:

  - Scorpio – Kylie Minogue
  - Virgo – Jack Fox, Herman Munster
  - Pisces – Effie Dimitrios, Gomez Adams, Mary Reitson
  - Aries – Donald Knotts
  - Taurus – Joan Page
  - Capricorn – Lanny Tan, Dolly Parton



9. Check and print out the table

### Exercise 5c

*For the following exercise, after creating the exercise use the “SQL View” of the query and write down the SELECT query listed in the dialogue box.*

10. Create a query named “qry**Names and Birthdays**” to display only the names and birthdates from the table.
11. Create a query named “qry**Single Stars**” to display only the names of those born under the star sign of “Virgo”
12. Modify the above named query to display only the names of those born under the star signs of “Aries” or “Pisces”
13. Create a query named “qry**countNovember**” to count the number of records with birthdays in November
14. Modify the above query to count the number of records with birthdays on the 3rd of the month.
15. Create a query named “qry**Star Signs**” to list Names and Star Signs.
16. Create a query named “qry**Oldies**” to list those older than 20 years of age.

### Exercise 5d

17. Change the table structure to make the field Birthdate an indexed field.
18. Change the table structure to make Last Name an indexed field.

## Unit 6

# Smart

### Exercise 6a

The following people have expressed an interest in obtaining the new computer smart card.

1. Create a database file in your folder called “**Smart Card Requests**” (1 mark)
2. Create a table called “**Interested**” with the following suggested field names: (1 mark)
  - Last Name, First Name, Address, Suburb, State, Post Code (1 mark)
3. Enter the following interested people.
  - Barnes, Jimmy, 32 Forest Lane, Mt Waverley, Vic, 3149
  - Hawke, Robert, 55 Main Street, Moonie Ponds, Qld, 4406
  - Bush, George, 234 Smith Street, Collinswood, SA, 5081
  - Benatar, Pat, 32 Johnston Street, Coffs Harbour, NSW, 2450
  - Fraser, Malcolm, 4 Adamson Road, Colebrook, Tas, 7027
  - Whitlam, Gough, 55 James Street, Richmond, NSW, 2198
4. Check your table
5. Print out the table contents

### Exercise 6b

6. Add a new field to the existing table structure so that a telephone number may be entered for each person. The field name is “Phone”. You must decide upon field type and width.
7. Change the records to include the telephone number listed below.
  - Barnes, Jimmy           337-3322
  - Hawke, Robert         419-8000
  - Bush, George           221-5600
  - Benatar, Pat            898-9900
  - Fraser, Malcolm        777-5543
  - Whitlam, Gough        643-2111
8. Check your table
9. Print out the table contents.

### Exercise 6c

*For the following exercise, after creating the query use the “SQL View” of the query and write down the SELECT query listed in the dialogue box.*

10. Create a query named “qryPostcode” to list those people who live in a suburb with the postcode 2450.
  
11. Create a query named “qryPhones” to list the name and telephone number only, for all records.
  
12. Create a query named “qryMoonie” to list the names of those people who live in Moonie Ponds

## Exercise 6d

13. Change the field *Suburb* to be indexed.
14. Add two more names
  - Wilbur Wilde, 1 Queens Road, Dalby, Qld, 4405, 356-0982
  - Linda Kozoski, 49 Hillcres Avenue, Brighton, Vic, 3186, 288-9087
15. Check and print your table

## Unit 7

# Rates

### Exercise 7A

The Water Board collects payments of its bills (rates) in a database.

1. Create a database called "Tonga Waterboard" (1)
2. Create a table called "Customers" with the following fields. Calculate the field width.

<i>Field Name</i>	<i>Data Type</i>	<i>Field Size</i>	<i>Format</i>	<i>Decimal Places</i>
Owner	Text			
Property	Text			
Suburb	Text			
Amount	Currency			
Paid	Yes / No			
Date	Date			

3. Input the data below

Owner	Address	Suburb	Amount	Paid	Date
• Tonga, T	3 Frank Street	Croydon	495.00	Yes	9 Sep 90
• Clepp, G	29 Beach Street	Croydon	503.99	No	
• Tacticos, S	1 Sea Avenue	Croydon	302.98	No	
• James, B	2 Anderson Road	Croydon	699.20	Yes	1 Oct 90
• Shepherd, N	88 Nepean Highway	Croydon	410.70	Yes	3 Mar 90
• Kurupu, B	14 Ashlee Avenue	Croydon	780.86	No	

4. Check your Database
5. Print the Table

### Exercise 7b

6. Make the following amendments to the Data
  - G Clepp paid 503.99 for the current year's rates on 5 October 1990
  - The rates due on 14 Ashlee Avenue are \$880.85
  - 1 Sea Avenue has been demolished for the building of units. Delete the property from the database.
7. Modify the structure of the table to include the field ARREARS. Arrears describe the outstanding amount, beyond the due payment date. Arrears of \$650.90 are owing from last year on 14 Ashlee Avenue
8. Delete the field Suburb as all of the properties in the file are located in the local Suburb.
9. Check your database for accuracy
10. Print your database table

## Exercise 7c

*For the following exercise, after creating the query use the “SQL View” of the query and write down the SELECT query listed in the dialogue box.*

11. List Owner, Address and Amount for all Croydon properties
  
  
  
  
  
  
  
  
  
  
12. List Property, Amount, Paid and Arrears
  
  
  
  
  
  
  
  
  
  
13. Search for those properties where rates payable are higher than \$500.00.
  
  
  
  
  
  
  
  
  
  
14. How many properties have rates owing?
  
  
  
  
  
  
  
  
  
  
15. Calculate the average property rate.
  
  
  
  
  
  
  
  
  
  
16. Locate those properties owned by T Tonga.

## Exercise 7d

17. Produce a report for the Water Board with the “Rates Payable” for each of the properties in Croydon.
  - Page Title: Rates Payable 1990
18. Check and Print the Report.

## Unit 8

# Rental

BJ Spencer Real Estate stores tents property and we have been asked to help store these details into an electronic database.

### Exercise 8a

1. Create a database called **BJ Spencer Rentals**
2. Create a table called **Property** with the following data structure.
  - You must decide on the appropriate field-size to be used by reviewing the sample data in question 3, and the function of the field.
  - Use “Design View”
  - Let Access create a Primary Key.

<i>Field Name</i>	<i>Data Type</i>	<i>Field Size</i>	<i>Format</i>	<i>Decimal Places</i>
Property	Text			
Owner	Text			
Tenant	Text			
Rental	Number			
Bond	Number			
Lease	Text			

3. Enter the details of the current properties in the suburb called Manly

<b>Property</b>	<b>Owner</b>	<b>Tenant</b>	<b>Monthly Rental</b>	<b>Bond</b>	<b>Lease Period</b>
• 25 Williams Road	Vlahos J	McLennan D	400	500	12 Months
• 6 Andrews Street	Starlight Pl	Emski I	600	1000	12 Months
• 8 Andrews Street	Starlight Pl	Carlson Z	600	1000	6 Months
• 9 Wood Crescent	Kean P	Richmon E	1000	2000	12 Months
• 10 Trample Avenue	New S	Tien R	700	500	Monthly
• 322 Windel Road	Peters Ltd	Page J	700	500	Monthly
• 955 Princes Highway	Vlahos J	Hayman R	400	500	12 Months

4. Check your database table

5. Print out the table

### Exercise 8b

6. Change the following records

- 9 Wood Crescent is owned by P Kent and rented for \$1100 per calendar month
- The monthly rental on 322 Windel Road has increased to \$810 per month
- J Vlahos has removed 25 Williams Road from rental

7. The company has just received 2 more properties, as yet with no tenants. Add these properties to the database.

<b>Property</b>	<b>Owner</b>	<b>Tenant</b>	<b>Monthly Rental</b>	<b>Bond</b>	<b>Lease Period</b>
• 2 Kingston Street	Chapman C		1000	2500	12 Months
• 33 Crandwin Road	Taczanowski R		600	1000	6 Months

8. Check your database

### Exercise 8c







16. List those businesses that are not situated in Frankston
  
17. Locate the businesses with a postcode of 3125
  
18. Display those companies with a postcode less than 3150

### Exercise 9d

19. Index on Business Name to a file called Business. *(This means to create a new table called Business where all the records exist, and the new table is indexed using the Business Name)*
  
20. Index on Suburb to a file called Suburb.

## Unit 10

# Students

The Student Records Department at Queens University have all the student names attending the University entered into a database file. Student details include their Last Name, First Name, Course, Method of Study and Student Identification Number.

### Exercise 10a

1. Establish an electronic database for students enrolled in Certificate Courses. Call your database **Student Records**

2. Determine a suitable data structure using the below sample data.

- Let Access create a Primary Key.

ID No	Last Name	First Name	Level	Method	Major
• 880198	Massimini	Simon	Cert	PT	Computing
• 881872	Flower	Pamela	Cert	PT	Accounting
• 880922	Orlando	John	Cert	PT	Law
• 871111	Wine	Susan	Cert	PT	Computing
• 889678	Heloski	Ian	Cert	FT	Secretarial
• 862345	Rakic	Con	Cert	FT	Accounting

3. Enter the data shown above into your database

4. Check the database records have been entered correctly

### Exercise 10b

5. Add the following students to the database

- Emily Kutt, Certificate (Law), Part Time, 858328
- Steven Amendola, Certificate (Computing), Full Time, 883344

6. Ian Heloski has deferred his course until next year. Remove his details from the database.

7. Simon Massimini has been asked to leave the course. Delete his record from the file

8. Delete the field Level, since this database only contains information from Certificate level courses.

9. Check your database

10. Print out the table

### Exercise 10c

*For the following exercise, after creating the query use the “SQL View” of the query and write down the SELECT query listed in the dialogue box.*

11. How many full time students are enrolled at the University Certificate courses ?

12. How many students' identification numbers begin with 88?

13. Print a list of those students enrolled in the Accounting Certificate

14. List student names and subject major for all records

15. List student names and identification number for all records

### Exercise 10d

16. Index on student ID to a table called ID.

17. Create a backup copy of your database file called **Student Records – Backup**

# Solutions

## Exercise 5c

10. Create a query named “qry**Names and Birthdays**” to display only the names and birthdays from the table.

```
SELECT Birthdays.[Last Name], Birthdays.[First Name], Birthdays.Birthdate
FROM Birthdays;
```

11. Create a query named “qry**Single Stars**” to display only the names of those born under the star sign of “Virgo”

```
SELECT Birthdays.[Last Name], Birthdays.[First Name], Birthdays.[Star Sign]
FROM Birthdays
WHERE (((Birthdays.[Star Sign])="Virgo"));
```

12. Modify the above named query to display only the names of those born under the star signs of “Aries” or “Pisces”

```
SELECT Birthdays.[Last Name], Birthdays.[First Name], Birthdays.[Star Sign]
FROM Birthdays
WHERE (((Birthdays.[Star Sign])="Aries" Or (Birthdays.[Star Sign])="Pisces"));
```

13. Create a query named “qry**countNovember**” to count the number of records with birthdays in November

```
SELECT Count(Birthdays.Birthdate) AS CountOfBirthday
FROM Birthdays
HAVING ((DatePart("m",[Birthday])=11));
```

14. Modify the above query to count the number of records with birthdays on the 3rd of the month.

```
SELECT Count(Birthdays.Birthdate) AS CountOfBirthday
FROM Birthdays
HAVING ((DatePart("d",[Birthday])=3));
```

15. Create a query named “qry**Star Signs**” to list Names and Star Signs.

```
SELECT Birthdays.[Last Name], Birthdays.[First Name], Birthdays.[Star Sign]
FROM Birthdays;
```

16. Create a query named “qry**Oldies**” to list those older than 20 years of age.

```
SELECT Birthdays.[Last Name], Birthdays.[First Name], Birthdays.Birthdate
FROM Birthdays
WHERE (((Birthdays.Birthdate)<DateAdd("yyyy",-20,Now())));
```