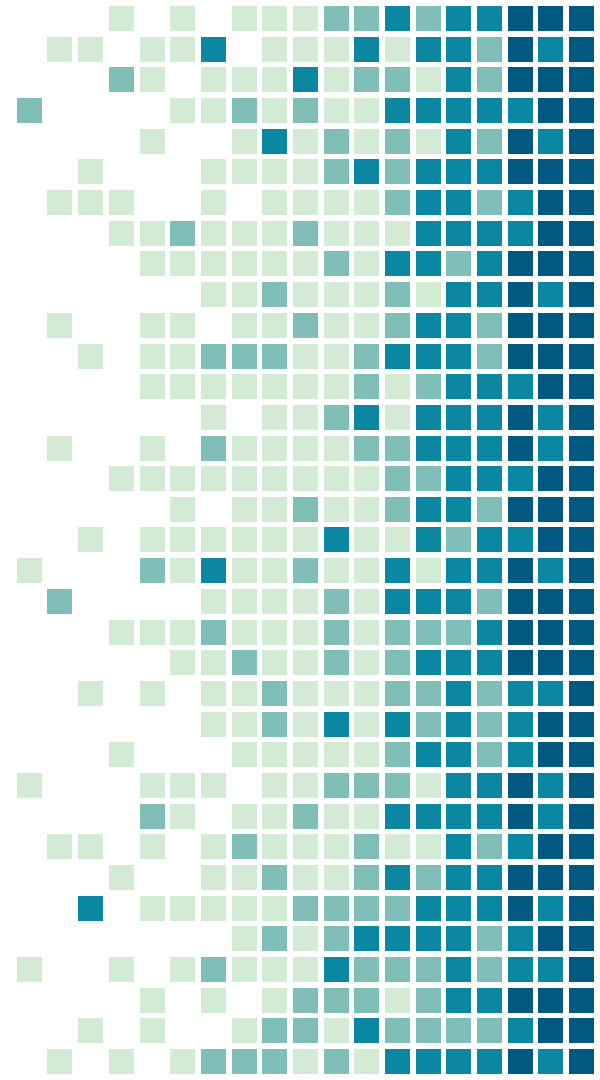


使用 MS Access 設計數據庫，學習 SQL 指令及製作簡單表單及報告

Using MS Access to design database, learning
SQL commands and create forms and reports

Mr. Wen Hua Yan
ICT Panel Head
Christian Alliance Cheng Wing Gee College
溫華恩先生
電腦科科主任
宣道會鄭榮之中學

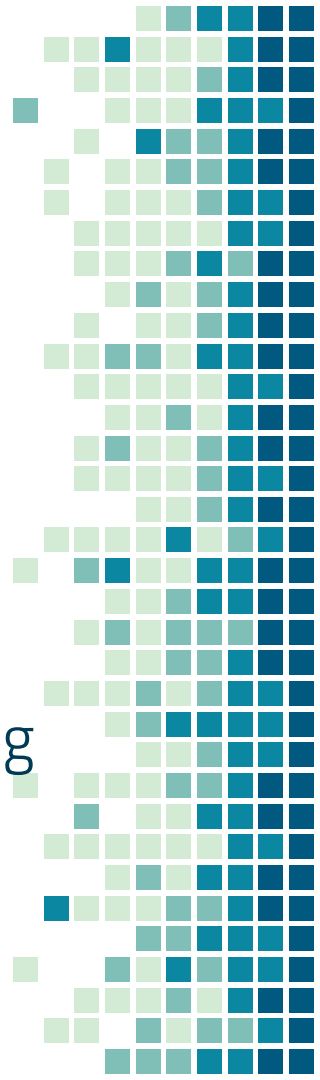
1. Overview





Why using MS Access?

- **Visualize** ERD, SQL,...
- does **not** require a great deal of **prerequisite learning**
- provides **form** and **report templates**
- **Expression Builder** → create complex reports and queries using codes / without codes



Overall Teaching strategy

Job Title	Address	City	St
Sales Representative	123 1st Avenue	Seattle	WA
Vice President, Sales	123 2nd Avenue	Bellevue	WA
Sales Representative	123 3rd Avenue	Redmond	WA
Sales Representative	123 4th Avenue	Kirkland	WA
Sales Manager	123 5th Avenue	Seattle	WA
Sales Representative	123 6th Avenue	Redmond	WA
Sales Representative	123 7th Avenue	Seattle	WA
Sales Coordinator	123 8th Avenue	Redmond	WA
Sales Representative	123 9th Avenue	Seattle	WA

Tables



```

SELECT * FROM HR.tbl_Cable_Size;
LETT * FROM HR.tbl_Cable_Type;
LETT * FROM HR.tbl_Enduser_Type;

SELECT * FROM HR.tbl_Cable_Type;
SELECT * FROM HR.tbl_Cable_Size;
SELECT * FROM HR.tbl_Enduser_Type;

SELECT * FROM HR.tbl_Cable_Type;
SELECT * FROM HR.tbl_Cable_Size;
SELECT * FROM HR.tbl_Enduser_Type;

SELECT * FROM HR.tbl_Cable_Type;
SELECT * FROM HR.tbl_Cable_Size;
SELECT * FROM HR.tbl_Enduser_Type;
    
```

Queries



Specialist - Timesheet Entry

for statutory holidays

Save

Forms

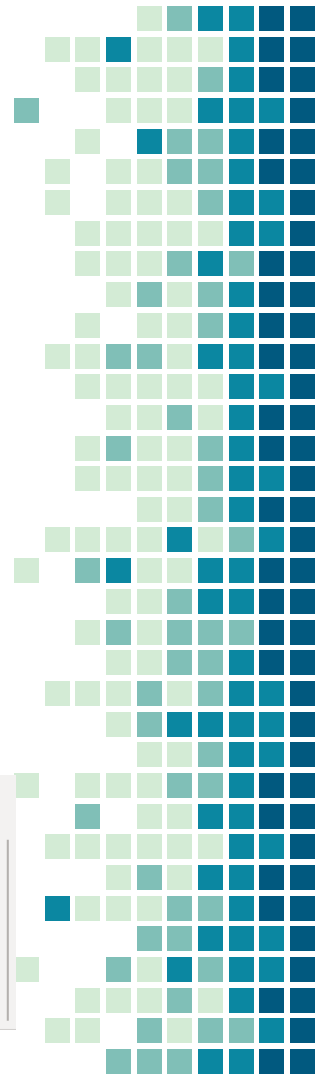


13 February 20				
	Grade2	Grade3	Overall	Average
100	66	66	72.8	77.33333333

Reports

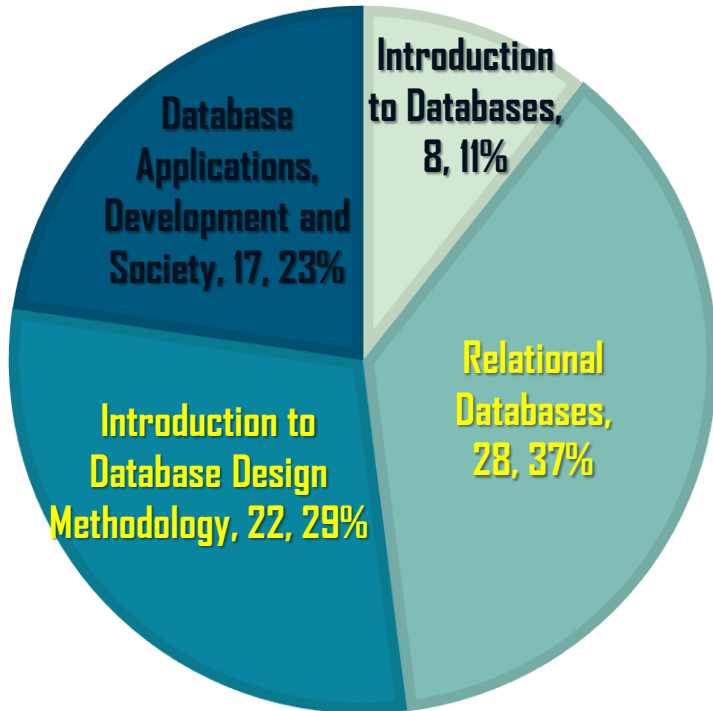
ome **Create** External Data Database Tools Help Tell me what you want to do

Table	Table Design	SharePoint Lists	Query Wizard	Query Design	Form	Form Design	Blank Form	Form Wizard	Navigation	More Forms	Report	Report Design	Blank Report	Labels
Tables			Queries		Forms			Reports						

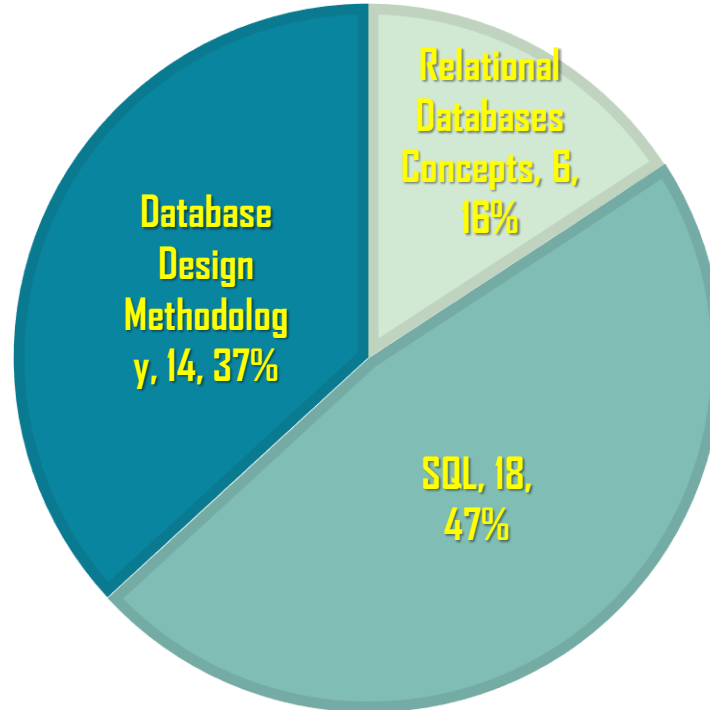


Curriculum updates (Elective Option A)

OLD



NEW

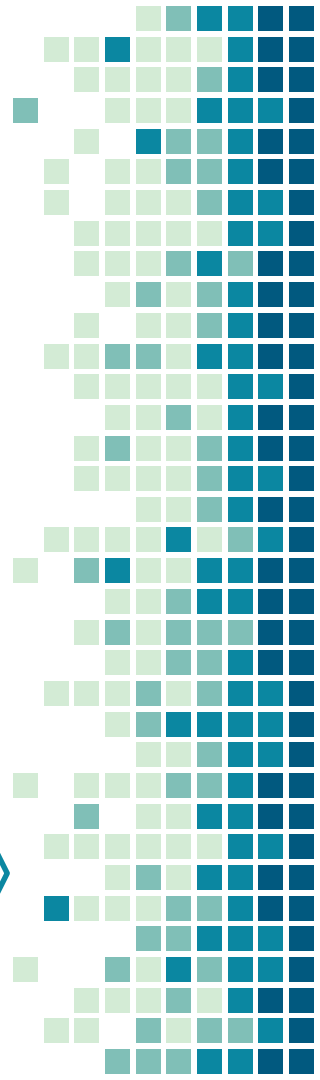


Considerations

Adapt to all
or most of
the new
curriculum?

Compatible
to SBA?

Cater the
learner's
diversity?



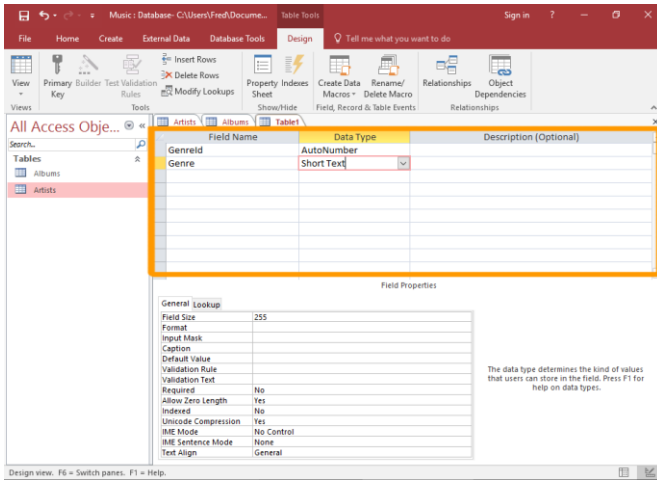
2.

Characteristics - Tables

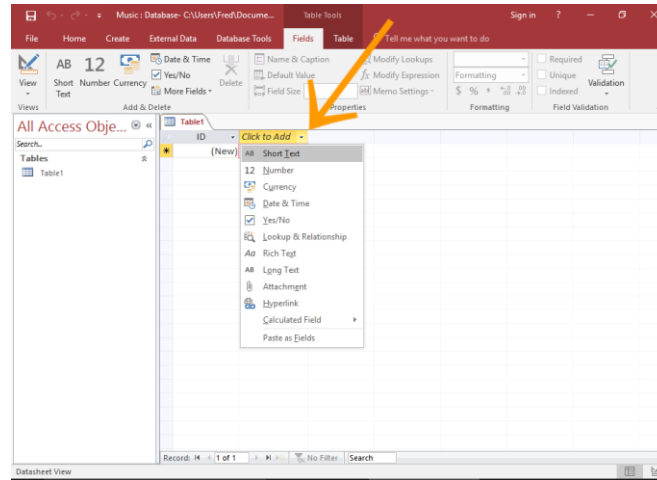


A. Create Tables

■ Design view

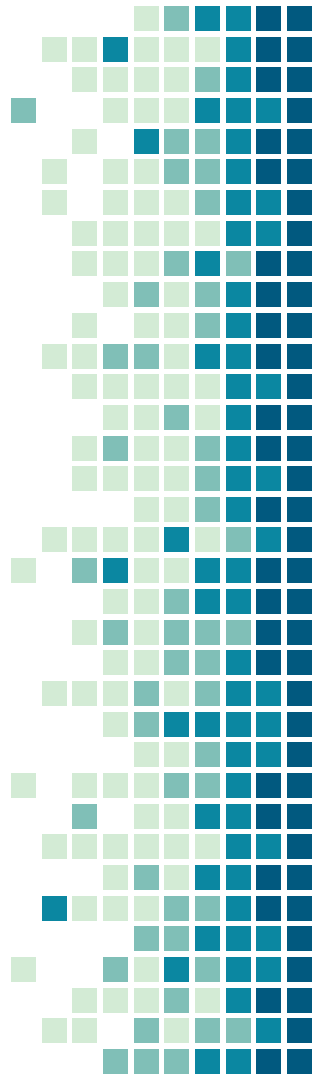
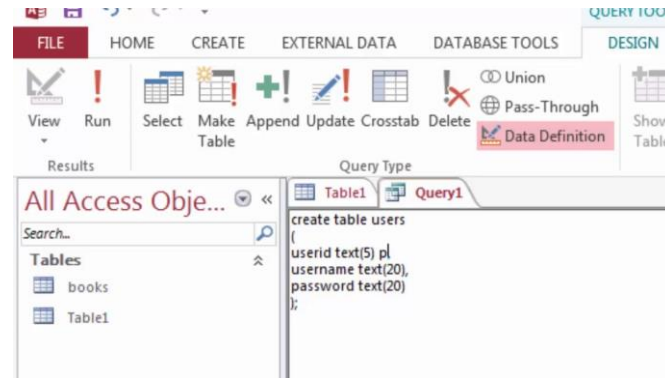


■ Datasheet view



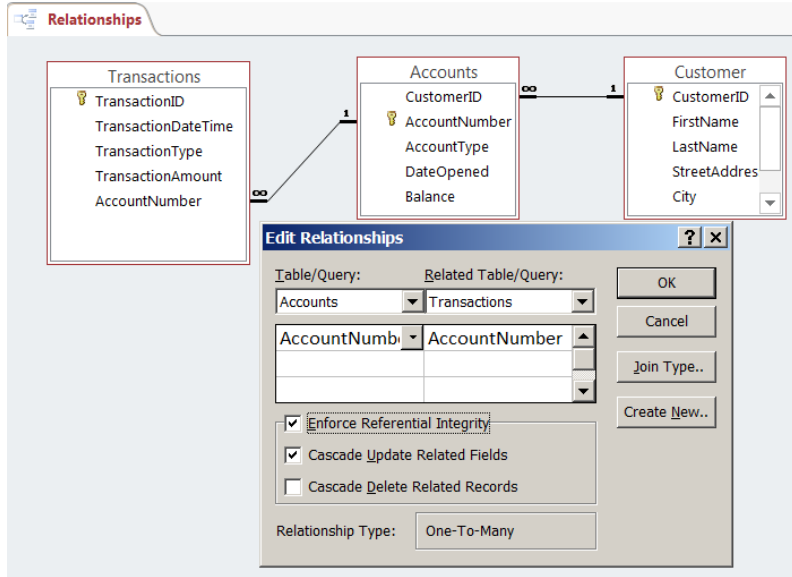
- ✓ Validation Rules
- ✓ Default values
- ✓ Combo Box
- ✓ Mask

■ SQL view



B. Relationships

- Visualization, Drag & Drop
- SQL view



The screenshot shows the Microsoft Access SQL view for the 'fk_rental_member' relationship. The SQL code is as follows:

```
ALTER TABLE RENTAL
ADD CONSTRAINT fk_rental_member
FOREIGN KEY (MID)
REFERENCES MEMBER (MID)
```



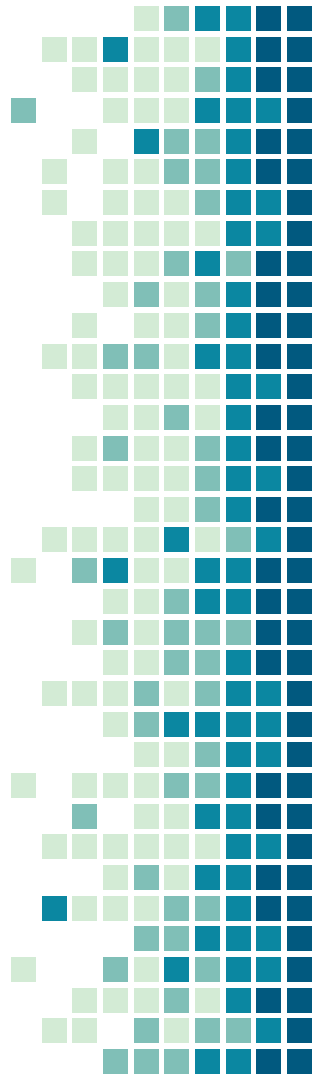
C. ER-Diagram

The screenshot shows the Microsoft Access interface in the Relationships Design view. The ribbon includes File, Home, Create, External Data, Database Tools, Help, and Relationships Design. The Database Tools ribbon is active, showing options like Compact and Repair Database, Visual Basic, Run Macro, Relationships, Object Dependencies, Database Documenter, Analyze Performance, Analyze Table, Access Database, SharePoint, and Add-ins.

The Relationships window displays an ER diagram with three tables: MEMBER, RENTAL, and VIDEO. The MEMBER table has fields MID (primary key), MNAME, MTYPE, CREDIT, and JDATE. The RENTAL table has fields MID, VID, and RDATE. The VIDEO table has fields VID (primary key), VTITLE, and RFEF. Relationships are shown as follows: MEMBER (1) to RENTAL (∞), and RENTAL (∞) to VIDEO (1).

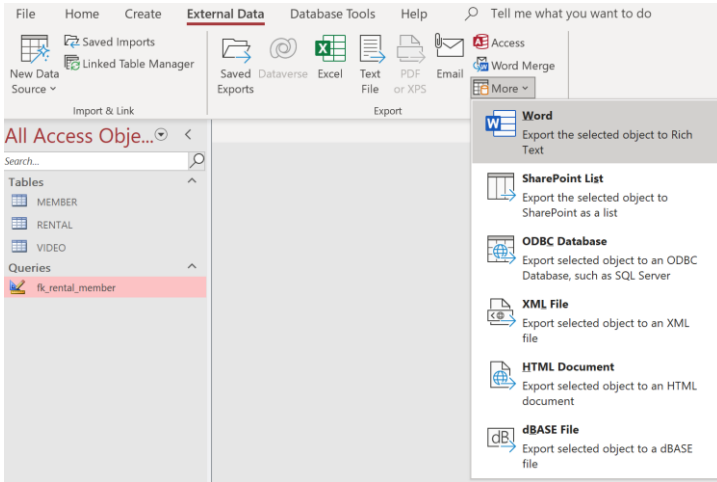
The left pane shows the All Access Objects list with Tables (MEMBER, RENTAL, VIDEO) and Queries (fk_rental_member).

Ready

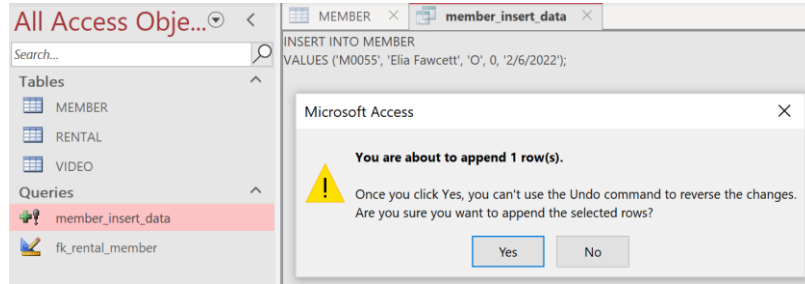


D. Data Entry

- From different sources



- Using INSERT SQL command



Access files:

https://drive.google.com/file/d/1YhwHP1fqV_1yVN9IOlyD3quzz3ysiHI3/view?usp=sharing

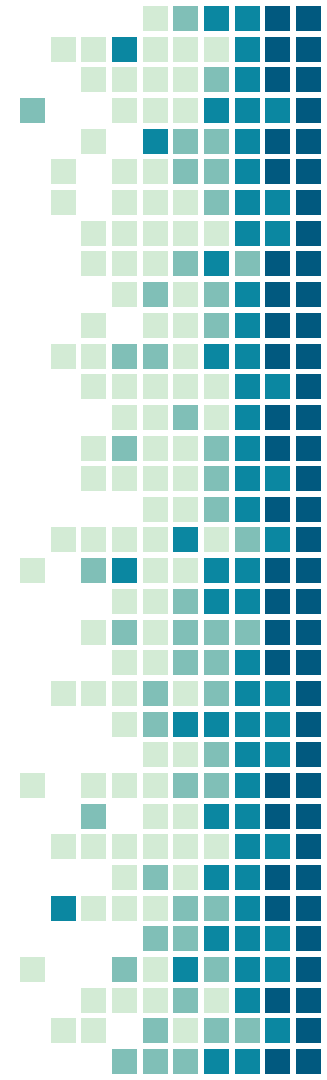
<https://drive.google.com/file/d/1fcxSIZddjstnUTT-iG9FUel2jwgYgHWu/view?usp=sharing>

D. Data Entry

Showing relationship

The screenshot shows the Microsoft Access interface with the MEMBER table selected in the left-hand pane. The main window displays a data entry form for the MEMBER table, which is linked to the RENTAL table. The data is organized as follows:

MID	MNAME	MTYPE	CREDIT	JDATE
M0001	Teo Chan	G	100	1/1/2021
VID	RDATE			
V02	5/8/2021			
V05	5/12/2021			
*				
M0002	Mary WonO		20	5/2/2021
VID	RDATE			
*				
M0003	John Lam	G	200	3/1/2020
VID	RDATE			
V06	7/3/2021			
V22	7/3/2021			
V32	5/9/2021			
*				



3.

Characteristics - Queries



A. Create Queries

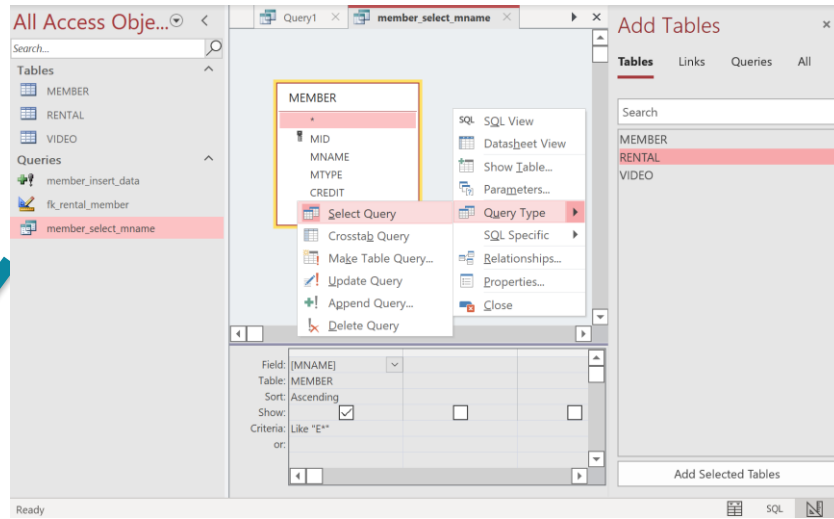
■ Datasheet view

MNAME
Elia Fawcett
Eric Chambers
Gary Chan
John Lam
Louis Ho
Mary Wong
Max Law
Nancy Chong
Percy Lee
Teo Chan
Thomas Yim

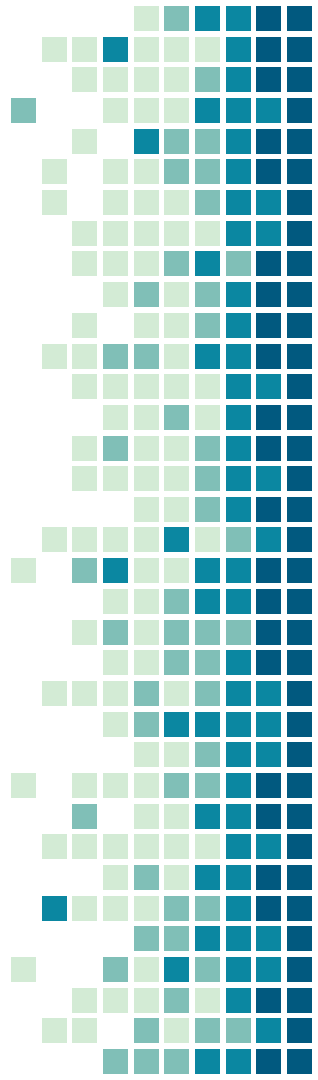
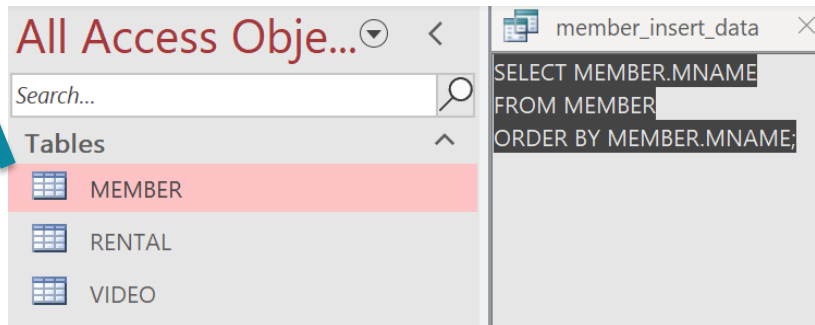
Reference:

<https://www.fmsinc.com/MicrosoftAccess/query/crosstab-report/index.html>

■ Design view



■ SQL view



B. Query types

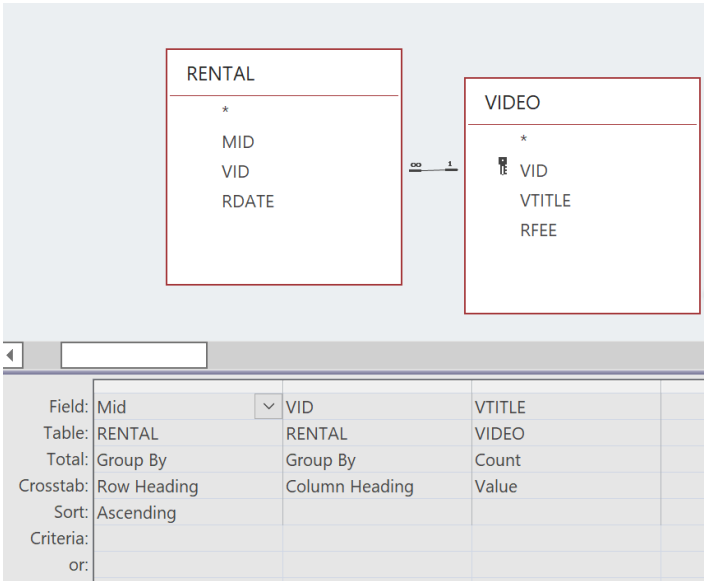
Select Make Table Append Update **Crosstab** Delete

Union
Pass-Through
Data Definition

Query Type



C. Query types – Crosstab



Mid	V01	V02	V03	V05	V06	V22	V32
M0001		1		1			
M0003					1	1	1
M0004	3						
M0005			3				
M0006				3			
M0015		3					
M0023						3	

Reference:

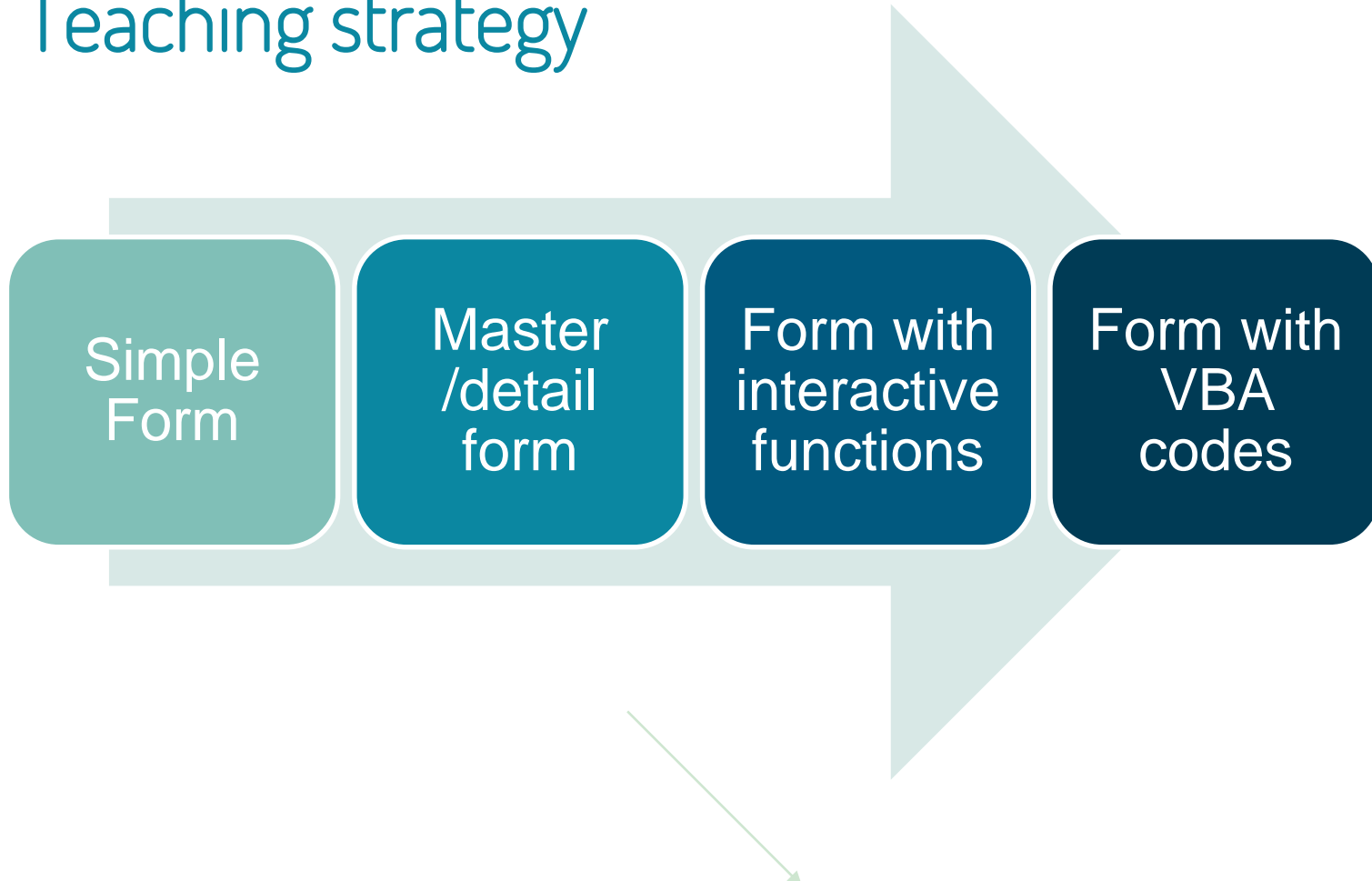
<http://www.iaccessworld.com/how-to-create-a-crosstab-query-use-group-by-and-sum/>

3.

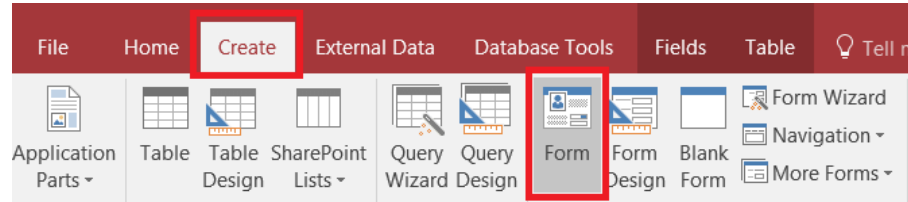
Characteristics - Forms



Teaching strategy



A. Simple Form



所有 Access 物件 << RENTAL

搜尋...

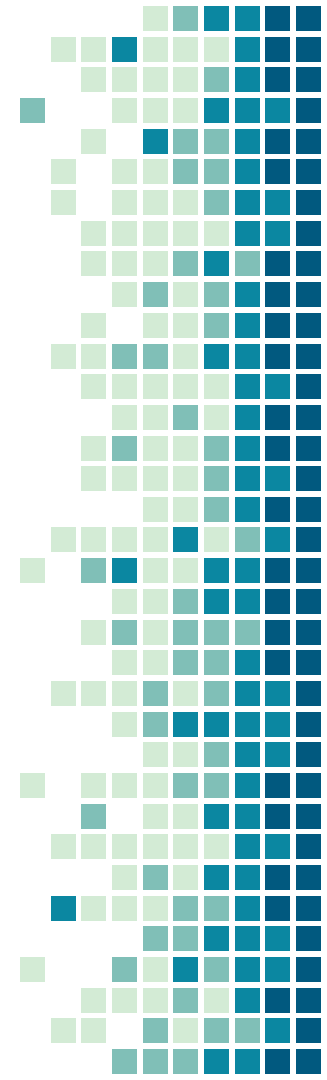
資料表

- MEMBER
- RENTAL
- VIDEO

RENTAL

MID	M0001
VID	V02
RDATE	5/8/2021

記錄: << 20 之 1 >>



B. Master/detail Form

- With relationship with other tables (FK)

所有 Access 物件 << RENTAL MEMBER MEMBER

搜尋...

資料表

- MEMBER
- RENTAL
- VIDEO

MEMBER

MID: M0001

MNAME: Teo Chan

MTYPE: G

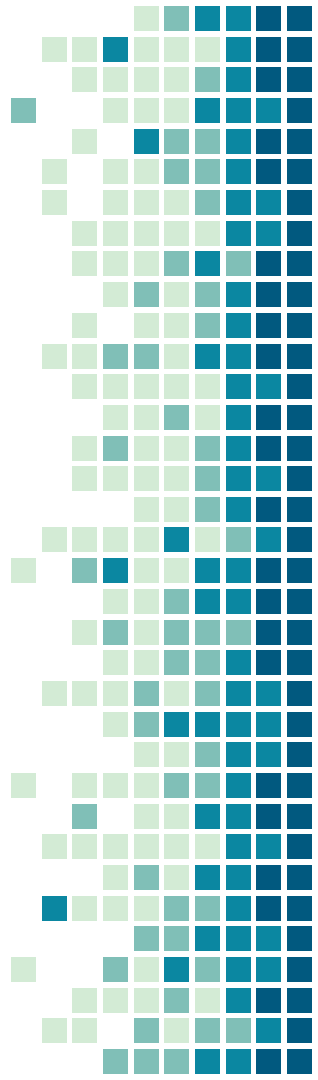
CREDIT: 100

JDATE: 1/1/2021

VID	RDATE
V02	5/8/2021
V05	5/12/2021
*	

記錄: 2 之 1 無篩選條件 搜尋

記錄: 10 之 1 無篩選條件 搜尋



C. Form with interactive functions

■ Print button

The screenshot shows the 'Command Button Wizard' dialog box. The 'Sample:' area shows a button with a printer icon. The 'What action do you want to happen when the button is pressed?' section contains two lists: 'Categories' and 'Actions'. 'Form Operations' is selected in the Categories list, and 'Print Current Form' is selected in the Actions list. The 'Next >' button is highlighted.

Command Button Wizard

Sample:

What action do you want to happen when the button is pressed?

Different actions are available for each category.

Categories:

- Record Navigation
- Record Operations
- Form Operations**
- Report Operations
- Application
- Miscellaneous

Actions:

- Apply Form Filter
- Close Form
- Open Form
- Print a Form
- Print Current Form**
- Refresh Form Data

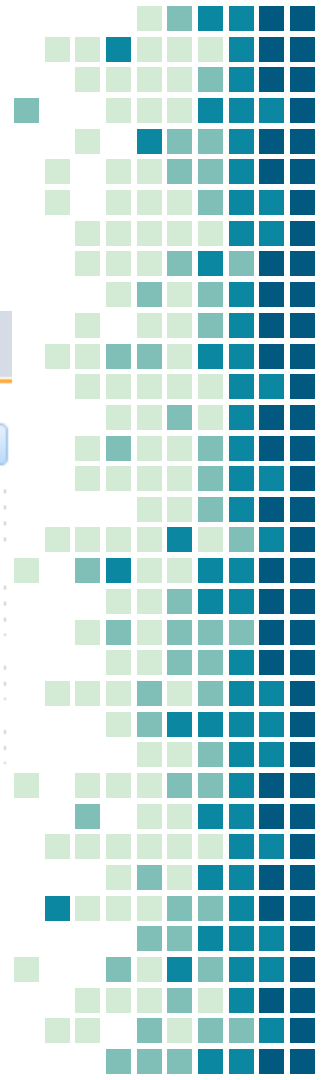
Cancel < Back Next > Finish

VID	RDATE
V02	5/8/2021
V05	5/12/2021
*	

The screenshot shows a 'MEMBER' form with the following fields and values:

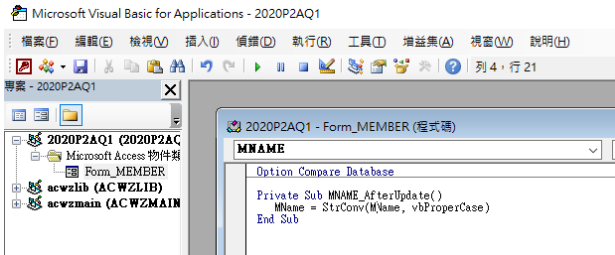
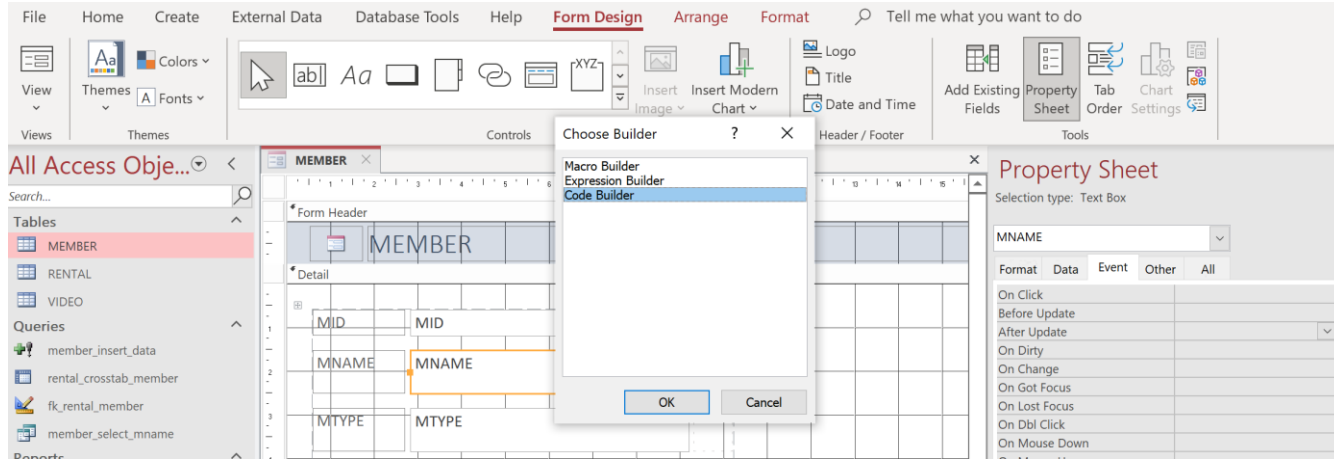
Field	Value
MID	M0001
MNAME	Teo Chan
MTYPE	G
CREDIT	100
JDATE	1/1/2021

A print button is located to the right of the MID field.

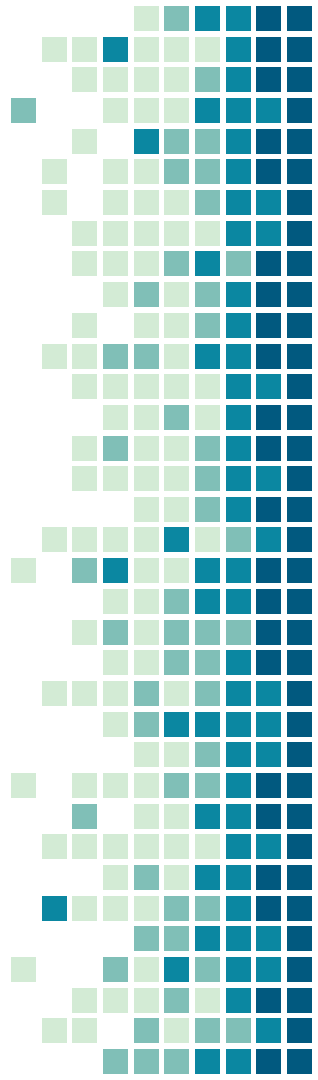


D. Form with VBA functions

■ Proper Case



`MNAME = StrConv(MNAME, vbProperCase)`

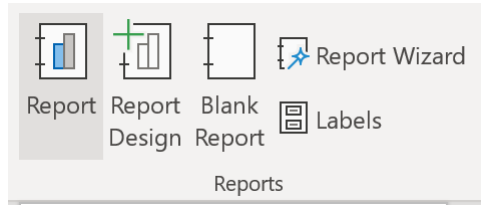


4.

Characteristics - Reports

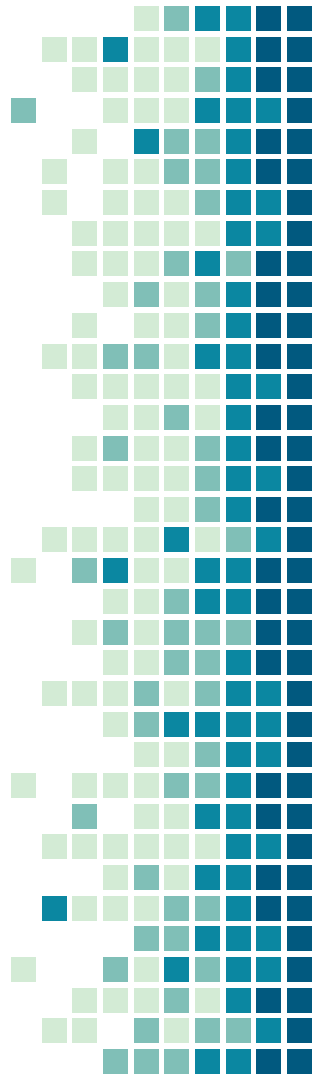


A. Create report



MEMBER Thursday, 2 June 2022
1:05:33 pm

MID	MNAME	MTYPE	CREDIT	JDATE
M0001	Teo Chan	G	100	#####
M0002	Mary Wong	O	20	#####
M0003	John Lam	G	200	#####
M0004	Eric Chambers	O	50	#####
M0005	Thomas Yim	O	80	#####
M0006	Percy Lee	G	450	#####
M0023	Nancy Chong	O	100	#####
M0015	Louis Ho	O	120	#####
M0029	Max Law	G	550	#####
M0018	Gary Chan	O	200	#####
M0055	Elia Fawcett	O	0	#####



Further study

- Access video training
<https://support.microsoft.com/en-us/office/access-video-training-a5ffb1ef-4cc4-4d79-a862-e2dda6ef38e6>
- Microsoft Access 2010, 2013, 2016 and 2019 Tutorial
<http://holowczak.com/microsoft-access-2007-and-2010-tutorial/>
- Good Database Project
<http://holowczak.com/?s=hair+salon>



Upcoming Event

Teacher Workshop (JUL 2022)

1. Introduction to internet and web elements
2. Create a simple web application
3. Introduction to Database
4. Using SQL query in PHP to add and retrieve data



THANKS!

Contact Us



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<https://instagram.com/hkace.socialmedia>