

DBHW01 410887043 電機三 何祐豪

1.

Database System HW/project 410887043 電機三 何祐豪

Bus information system

Condition description:

Bus Guild (公車公會) wants to make a database system to record and manage the information of Bus.

① Every bus has its number, if you have number of bus, you will know any information of the bus, eg. route, Bus time... You can also search 'Travel time', 'Bus time', 'Frequency', 'Start time', and 'Last time' about the bus.

② A (bus) company owns many bus, and a company has 'Cnumber', 'Cname', 'Manager', and 'Clocation', and key is 'Cnumber'.

③ A driver may drive one type of bus, one person is specialized in one type of bus. Besides, 'experience' record the time (years) that one drivers drive a type of bus.

④ Every driver has his unique 'SSN', and their 'Address', 'Fname', 'Lname', 'sex', 'Salary' can be researched.

⑤ A company will supervise many drivers.

⑥ Bus may pass by many Bus stops (n), and a bus stop is passed by many types of bus (m).

⑦ A bus stop has unique 'Stop number', and has attributes like 'Bus name', 'Location', 'Bus time'.

(8) A bus stop has some relations about others stops.

We use 'Distance' to record it.

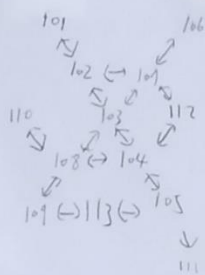
Distance can be measured by 'Kilo', 'Stop interval', and 'Spending time'.

(9) Bus stop - Other Bus Stop is primary key, and it also is primary key, and A+B is focused on A, all information about bus stop is about A, and Kilo, Stop interval, and Spending time is used to describe the information about A and B.

ex:

Bus Stop (^AStop-Number, ^BOther-Stop-Number, ^{about A}Bus-Name, ^{about A}Location, ^{about A}Busy-Time, ^{A and B}Kilo, ^{A and B}Stop-Interval, ^{A and B}Spending-Time)

Route :



Graph of route (stop)

916, 38, 99 \Rightarrow (101, 102, 103, 104, 105)

122 \Rightarrow (106, 107, 103, 108, 109)

123 \Rightarrow (110, 108, 104, 105, 111)

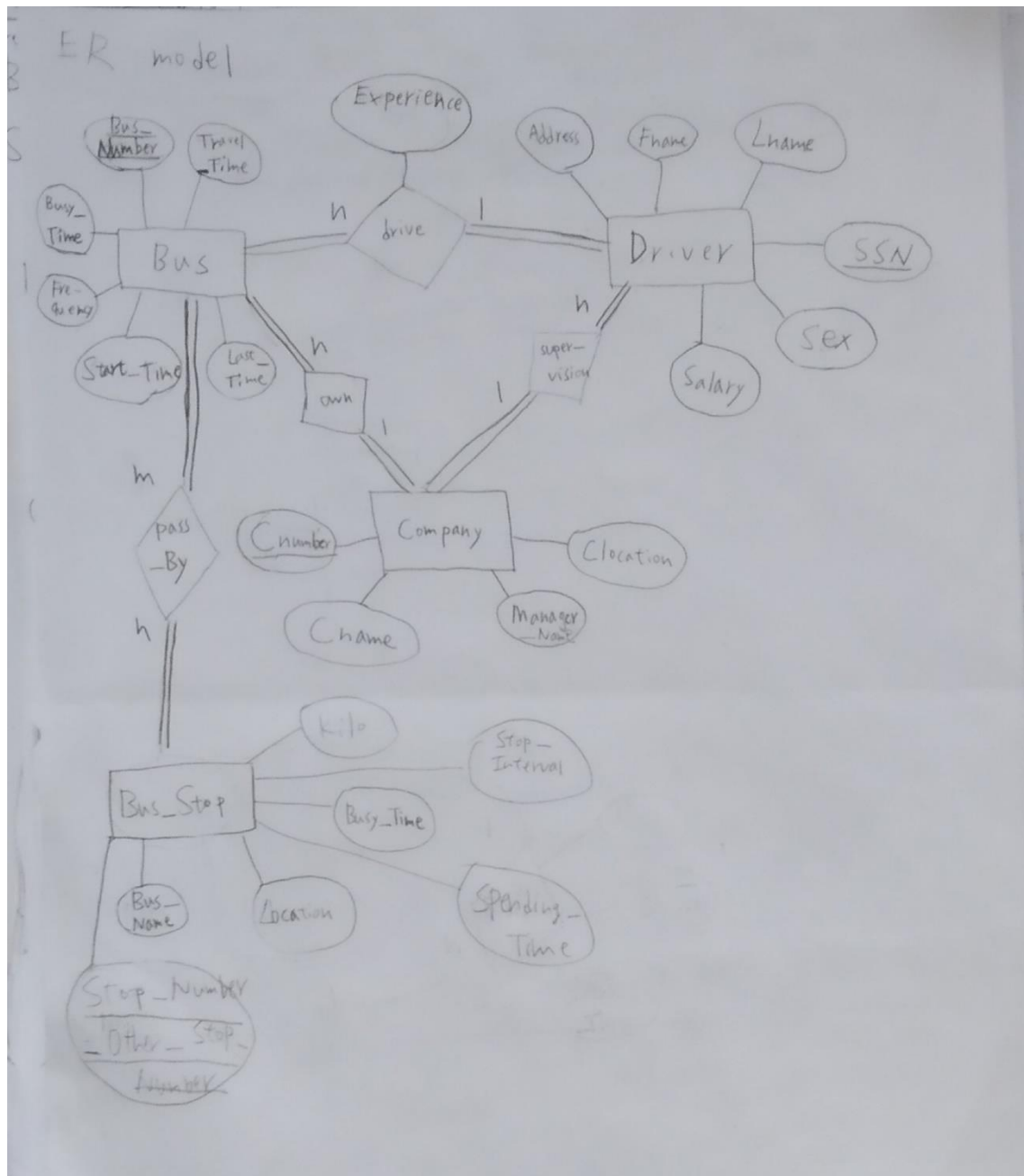
234 \Rightarrow (101, 102, 103, 107, 106)

555, 313 \Rightarrow (102, 103, 104, 105)

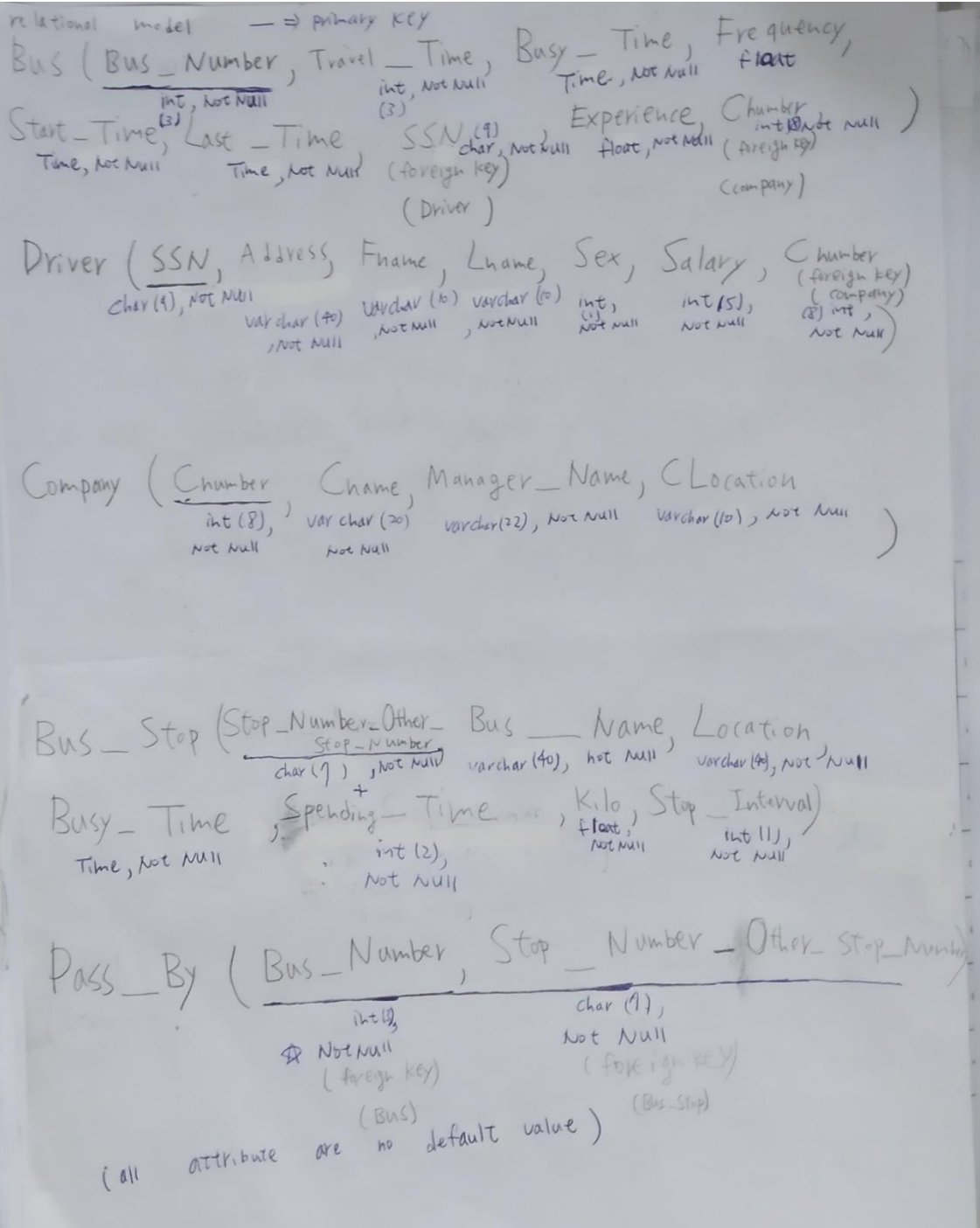
506, 345 \Rightarrow (103, 104, 105, 113)

576, 932, 933 is terminated now.

2.

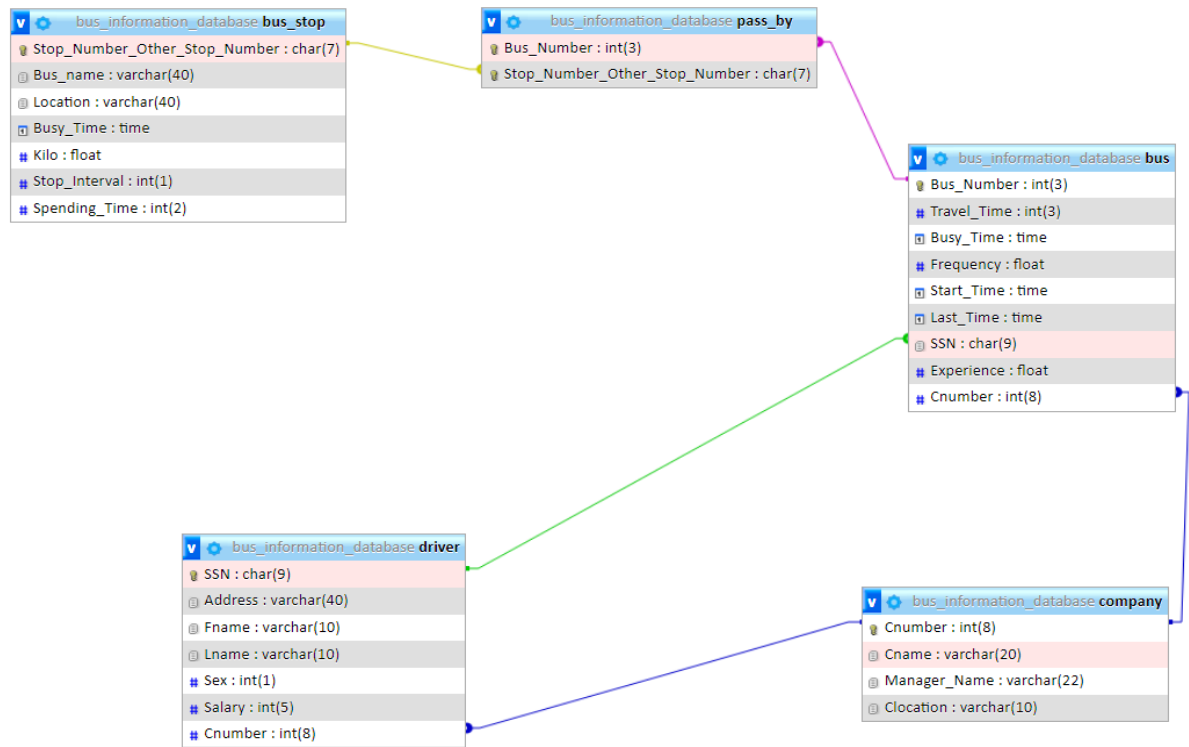


3.



4.

關聯圖



Query1: Find Fname, Lname, and Sex of the driver(s) that salary > 30000 NT dollars regardless of what company is belonged to.

在資料庫 bus_information_database 執行 SQL 查詢: ?

```
1 SELECT fname,lname,sex
2 FROM driver
3 WHERE salary > 30000;
```

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					fname	lname	sex
<input type="checkbox"/>		編輯		複製		刪除	Luccy Chen 1
<input type="checkbox"/>		編輯		複製		刪除	Wendy Ho 1
<input type="checkbox"/>		編輯		複製		刪除	Fuchi Chang 1
<input type="checkbox"/>		編輯		複製		刪除	Tim Lee 0
<input type="checkbox"/>		編輯		複製		刪除	Timmy Lu 0
<input type="checkbox"/>		編輯		複製		刪除	Yolu Hua 1
<input type="checkbox"/>		編輯		複製		刪除	Oscar Lin 0
<input type="checkbox"/>		編輯		複製		刪除	Ginny Lee 1

Query2: Find what company is located in Sanxia, and list company name, manager name.

Besides, Find the driver(s) who works for that company(s), list driver's SSN, driver's Fname, driver's Lname, and driver's address.

```
SELECT cname,manager_name,ssn,fname,lname,address
FROM company,driver
WHERE company.Clocation = 'Sanxia';
```

<pre>SELECT cname,manager_name,ssn,fname,lname,address FROM company,driver WHERE company.Clocation = 'Sanxia'</pre>					
<input type="checkbox"/> 效能分析 [行內編輯] [編輯] [SQL 語句分析] [建立 PHP 程式碼] [重新整理]					
<input type="checkbox"/> 全部顯示 資料列數： 25 ▼ 篩選資料列: <input type="text" value="搜尋此資料表"/>					
+ 選項					
cname	manager_name	ssn	fname	lname	address
dragon bus company	Smith Wang	111111111	Luccy	Chen	Genius Rd., Wanhua Dist., Taipei City
dragon bus company	Smith Wang	111222111	Vodka	Ho	Vodka Rd., Wanhua Dist., Taipei City
dragon bus company	Smith Wang	123123123	Wendy	Ho	Ant Rd., Sanxia Dist., New Taipei City
dragon bus company	Smith Wang	123333120	Fuchi	Chang	Journey Rd., Linkou Dist., New Taipei City
dragon bus company	Smith Wang	123456456	Jhony	Lee	Wolf Rd., Banqiao Dist., New Taipei City
dragon bus company	Smith Wang	123456789	Yoyo	Hu	Pig Rd., Sanxia Dist., New Taipei City
dragon bus company	Smith Wang	123789789	Tim	Lee	Awesome Rd., Nangang Dist., Taipei City
dragon bus company	Smith Wang	222222222	Denny	Lu	Clock Rd., Shilin Dist., Taipei City
dragon bus company	Smith Wang	333333333	Timmy	Lu	Norm Rd., Sanxia Dist., New Taipei City
dragon bus company	Smith Wang	555555555	Yolu	Hua	Sleep Rd., Wanhua Dist., Taipei City
dragon bus company	Smith Wang	666666666	Oscar	Lin	Snake Rd., Tucheng Dist., New Taipei City
dragon bus company	Smith Wang	888888888	Ginny	Lee	Speed Rd., Banqiao Dist., New Taipei City
dragon bus company	Smith Wang	999999999	Gin	Lin	Dragon Rd., Sanxia Dist., New Taipei City

Query3:One person wants to use bus information database system to find how to go to 'Fish Pool'.

He(She) wants to know the stop number of 'Fish Pool', what stop is next to 'Fish Pool', what kinds of bus(es) can arrive in, and the frequency of that bus(es).


```
1 SELECT stop_number,other_stop_number,bus_number,frequency
2 FROM bus,bus_stop
3 WHERE location = "Fish Pool";
```

SELECT stop_number_other_stop_number,bus_number,frequency FROM bus,bus_stop WHERE 1

☐ 效能分析 [行內編輯] [編輯] [SQL 語句分析] [建立 PHP 程式碼] [重新整理]

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☐ 全部顯示

資料列數：

25 ▼

篩選資料列：

搜尋此資料表

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stop_number_other_stop_number	bus_number	frequency
103 101	38	8.5
103 101	99	6
103 101	122	20
103 101	123	15
103 101	234	18
103 101	313	30
103 101	345	10
103 101	506	10
103 101	555	5
103 101	576	13
103 101	916	15
103 101	932	10
103 101	933	25
103 102	38	8.5
103 102	99	6
103 102	122	20
103 102	123	15
103 102	234	18
103 102	313	30
103 102	345	10
103 102	506	10
103 102	555	5
103 102	576	13
103 102	916	15
103 102	932	10