

ASSIGNMENT 3

Assignment Value: 10% of your final mark
The assignment is to be done as a group of 3-4 students

Due Date/Time: 8.30am, 4 Nov, 2013
(Note Late submissions will attract a penalty)

Submission Requirements

SQL scripts that you submit must work with ISQL Junior.

You must submit your assignment as a single .zip file using ESP. <https://esp.it.swin.edu.au/>

- Suggestion: One member of your group creates one ESP team. A team number is issued by ESP. Then, each other member of the group joins the ESP team.
- Lock you team when done. *(Inform the convener of any people who join you team but are not members of your group. They will be expelled from you team).*
- Each ESP team is only required to submit one assignment.

Your single .zip file must include the following **three** files:

- A **single** .PDF document named **ASS3.PDF** that contains:
 - All student names and numbers on page 1
 - A fully expanded and complete ERD diagram (see part 1).
 - The diagram must be an image created with a diagramming tool such as Visio
 - The diagram must follow the ERD symbol conventions used in lectures and labs.
 - The relational schema (see part 2)
 - Network diagram (follow the same drawing guidelines from lectures) (see part 2)

Please ensure that you know how to create a pdf file at least one week prior to submission of your assignment.

[A simple way to create the above PDF document is to create an MS Word document, add the appropriate text and paste diagrams from Visio. Finally choose either Save As PDF, or Print the document using the Adobe PDF Printer option. Both PDF options are available in all Swinburne labs.]

- The script file named **Ass3_SQLScript.TXT** that contains SQL statements for parts 3-5.
- The script file named **Ass3_SQLOutput.XLSX** contains output generated by the above script.

NOTE: These files must be zipped into a **single** .zip file prior to submission.
Do **not** submit a .rar or .7z file.

Late submissions will attract a penalty

Aussie Wine Tours

Part 1. (50 marks)

Create a fully expanded **ERD** based on the information in the following narrative.

Business Narrative

Aussie Wine Tours (AWT) conduct tours of the wineries of Victoria's Yarra Valley wine region. Each tour is run on a single day. Currently there are several wine tours including The White Wine tour, The Red Wine tour and The Sparkling Wine tour. The Red Wine Tour is very popular tour and has often run 3 or 4 times in a single month. The tour schedule depends upon the availability of the wineries, the availability of the tour leaders and the public interest.

Each tour usually takes around 6 hours to complete and is led by one or more of AWT's well renowned wine experts.

Each tour has a 'current price'. However, due to various market forces, prices have been rising over the past couple of years. For example, last year the Red Wine Tour was \$170 but now its current price is \$200.

No two events for the same tour can occur on the same day. (e.g. The Red Wine Tour cannot be conducted twice on the same day).

AWT have many satisfied customers, many of whom have attended multiple wine tours over the years. Each customer has a customer id, name, address and contact phone number.

AWT usually plan and advertise wine tour details and dates about 6 months prior to the running of each tour. Customers usually ring AWT to make bookings for their wine tour. Each booking stored in the AWT system is for a single person. (E.g. A husband and wife attending the same tour event will have two bookings created for them. Each booking is for a single customer).

Note: You may want to build an ERD based on the above information (and some Appendix A examples) It is suggested that you show / discuss the ERD with your tutor before continuing to expand the ERD.

AWT have a number of printed wine tour brochures – one for each of the different wine tour (E.g. A 4-page printed glossy brochure that has photos and details of the Red Wine Tour).

People often ring up or email AWT and request a brochure. Brochures are only sent to customers.

If the person requesting a brochure is not already a customer, then AWT create a new customer by assigning a customer id and recording the person's name, address and phone number. When a brochure is requested, AWT record the date of the request. After the brochure is mailed to the customer, AWT record the date that the brochure was sent.

Obviously, a customer who requests a brochure is not under any obligation to make any bookings.

A customer makes payment(s) for each booking. Each payment made is for a single booking. AWT record the amount of the payment, the date of the payment, the type of payment made (cash, credit card or cheque) and which booking the payment is for.

Some customers may make two or more payments for a single booking (e.g. the tour price is \$200 and the customer makes two payments \$120 and \$80.)

Sometimes (though rarely), a customer makes a payment for an amount larger than required. AWT simply record the amount of the payment. (You simply have to record the amount of the payments made. You do not need to concern yourself with how refunds or payment transfers may occur).

Note: You may want to build an ERD based on the above information (and some Appendix A examples) It is suggested that you show / discuss the ERD with your tutor before continuing to expand the ERD.

AWT have a number of gifts available for participants attending tour events. Generally, three or four gifts are offered to participants of a tour event. The gifts on offer are often decided by a mixture of the type of tour, the whim of the wine expert leading the event and availability of stock. On the day of the event, each participant may choose a maximum of two gifts. AWT records which gifts are chosen by each booked customer. Obviously, a customer has the right to not select any gifts while attend a tour.

Note: You are **not** expected to limit the number of gifts selected by a customer to 2. This is beyond the scope of an ERD. Such a restriction would normally be programmatically solved using a Stored Procedure, Trigger or some other programming technique).

Once your ERD is complete you MUST show it to your tutor for approval.

IMPORTANT: You must not attempt Part 2 of this assignment until your ERD has been approved.

Suggestion: All members of your team should work on and discuss the ERD. Creating an ERD for a business narrative is a major part of the final exam. Not being involved in discussions will be a major disadvantage.

Part 2. (10 marks)

- Create a Relational Schema based on your ERD.
- Create a Network Diagram based on your relation schema.

Part 3. (15 marks)

- Download the file called Ass3_SQLScript.TXT which contains SQL statements that can be executed by your tutor. All SQL statements must be able to be executed successfully in ISQL Jr.
- Add the Create Table to the script file to create all of the tables.
- All tables must enforce primary key and foreign key constraints
 - Surrogate Keys **must not** be introduced into your solution.
- Add the Insert statements to populate your tables with **only** the data used in Appendix A below. **Do not add your own data.**

Part 4. (15 marks)

- Demonstrate your foreign key constraints work correctly. **Each** of the generated Insert statements **must fail** due to foreign key constraint errors. Add the Insert statements to the script file.
1. Attempt to insert a row that allocates expert # 22 to Tour B1 conducted on 2013/02/18
 2. Attempt to insert a row that books customer C078 on Tour W1 conducted on 2014/01/01
 3. Attempt to insert a row that makes a payment for customer C225 conducted on Tour W1 conducted on 2014/01/01
 4. Attempt to insert a row that allocates gift G09 to Tour W1 conducted on 2014/01/01
 5. Attempt to insert a row that allows customer C123 to select gift G09 on Tour R2 conducted on 2012/10/07

Part 5. (5 marks) Create a SQL queries to do the following.
Add the SQL statements to the script file.

- Query 1.** List Customer No, Name, Address and Phone No of all customers.
The List must be in Customer No sequence.
- Query 2.** List tour code, event date, wine expert name(s) of all tour events.
The List must be in tour code, event date, wine expert surname sequence.
- Query 3.** List tour code, event date, customer no and customer name for every booking made
The List must be in tour code , event date, customer no sequence.
- Query 4.** List tour code, event date, gift code and gift description for all gifts offered on all tour events
The List must be in tour code , event date, gift code sequence.
- Query 5.** List tour code, event date, customer no and customer name, gift code and gift description for all gifts selected by customers on all tour events
The List must be in tour code , event date, customer no, gift code sequence.

Part 6. (5 marks)

- Query 6.** List Customer No, Customer Name, total payments made by all customers who have made bookings.
Include customer that may never made a booking.
The List must be in Customer No sequence
- Query 7.** List Tour Code and total payments made for all tours.
The List must be in Tour Code sequence
- Query 8.** List gift code and gift description and total number of times that a gift has been selected by a booked customer.
Include all gifts that may never have been selected.
The List must be in descending total sequence
- Query 9.** List the current price and the minimum price charged for each tour.
E.g. Tour X1 has a current price of \$500. Ten months ago, this course ran and the price was \$425
The list would show:
- | <i>Tour Code</i> | <i>Description</i> | <i>Current Price</i> | <i>Minimum Price</i> |
|------------------|----------------------------|----------------------|----------------------|
| <i>X1</i> | <i>Expensive Wine Tour</i> | <i>500</i> | <i>425</i> |
- Query 10.** List Customer No, Customer Name, tour code, event date for all customers who requested a brochure for a tour and then made a booking for that tour.

Script execution and output requirements

Your submission must include the output generated by the Ass3_SQLScript.TXT after the entire script has been executed in ISQL Jr. The output must be pasted and copied into an Excel file (in a similar fashion to Ass1 and Ass2). The name of the must be **Ass3_SQLOutput.XLSX**.

Appendix A. Existing Documents

Below are sample copies of various **existing handwritten** documents that are currently **manually** maintained by staff at AWT.

Wine Tour Descriptions

Tour Code	Short Name	Short Description	Current Price
B1	Wine Appreciation	A great tour for visitors new to wine tasting. Our experts describe the process of wine tasting, purchasing wine and how to plan your wine cellar	\$300
R2	Red Wine Tour	Sample brilliant red wine varieties from this famous region wineries with one of our distinguished wine experts	\$200
W1	White Wine Tour	Taste the best white wines of the regions many world renowned wineries under the guidance of one of our celebrated wine experts	\$220
S1	Sparkling Wine Tour	The region is famed for its interesting forms of sparkling wines. Our expert tour leader will ensure that this is an experience never to be forgotten	\$250

Event Calendar

Tour Code	Tour Description	Event Date	Price	Event Wine Expert(s)	Gifts on offer
R2	Red Wine Tour	2012/10/07	\$170	Penny Folds, Geoff Millar	G01, G02, G03, G04
B1	Wine Appreciation	2012/11/11	\$270	Geoff Millar	G06, G05,
B1	Wine Appreciation	2013/02/18	\$280	Hillary Cork, Sue Davies	G01, G03, G05, G07
R2	Red Wine Tour	2013/02/18	\$190	Penny Folds	G01, G06, G07, G09
R2	Red Wine Tour	2013/03/07	\$200	Geoff Millar	G02, G06, G08
B1	Wine Appreciation	2013/03/14	\$300	Geoff Millar, Hillary Cork	G04, G05, G06
W1	White Wine Tour	2013/06/03	\$200	Sue Davies	G01, G04, G06
S1	Sparkling Wine Tour	2013/10/27	\$250	Sue Davies	G02, G04, G09
W1	White Wine Tour	2013/10/29	\$220	Hillary Cork, Penny Folds	G01, G05, G06, G09

List of Wine Experts

Expert No	Expert First Name	Expert Surname	Phone Number
5	Sue	Davies	9214-2222
1	Geoff	Millar	9214-1111
8	Hillary	Cork	9214-4444
12	Penny	Folds	9214-3333

Participant Details

Tour: B1 Wine Appreciation Date: 2013/02/18				
Customer No	First Name	Surname	Amt Paid	Gifts Selected
C123	Joel	Warren	\$280	G01
C218	Sue	Armstrong	\$280	G01, G05
C178	Grant	Simpson	\$280	G05, G07
C191	Sarah	Charter	\$280	G05
C334	Helen	Chin	\$280	G05, G07
C367	Ryan	Chin	\$280	G07
C555	Ted	Smith	\$325	

Tour: R2 Red Wine Tour Date: 2013/02/18				
Customer No	First Name	Surname	Amt Paid	Gifts Selected
C078	Clare	Watts	\$190	G01, G07
C267	Karin	Black	\$190	G01
C225	Ziggy	Lee	\$190	G07, G09

Tour: R2 Red Wine Tour Date: 2013/03/07				
Customer No	First Name	Surname	Amt Paid	Gifts Selected
C218	Sue	Armstrong	\$200	G02, G06
C191	Sarah	Charter	\$200	G08
C123	Joel	Warren	\$270	G02

Tour: W1 White Wine Tour Date: 2013/06/03				
Customer No	First Name	Surname	Amt Paid	Gifts Selected
C078	Clare	Watts	\$100	
C123	Joel	Warren	\$200	G04
C225	Ziggy	Lee	\$200	G04, G06
C367	Ryan	Chin	\$200	G01, G04

Tour: B1 White Wine Tour Date: 2012/11/11				
Customer No	First Name	Surname	Amt Paid	Gifts Selected
C191	Sarah	Charter	\$270	G05, G06
C555	Ted	Smith	\$270	G06, G05
C267	Karin	Black	\$270	G05, G06

Tour: R2 White Wine Tour Date: 2012/10/07				
Customer No	First Name	Surname	Amt Paid	Gifts Selected
C225	Ziggy	Lee	\$50	G01, G04
C078	Clare	Watts	\$170	G02, G03
C123	Joel	Warren	\$170	G04

List of Gifts

Code	Description
G01	Collectors Red Wine Glass
G02	Cork Screw
G03	Sherry Glass
G04	White Wine Glass
G05	Guide to Wine Tasting Handbook
G06	Winery Guide Handbook
G07	Wine for Women Handbook
G08	Wine Museum Voucher
G09	Collectors Sparkling Wine Glass
G10	Commemorative Cup

Brochure Requests

Request Date	Cust No	CustFirstname	CustSurname	Address	Phone	Tour # Request
2012/06/19	C267	Karin	Black	1 Black St	9214 8888	W1
2013/08/19	C215	Henry	Ryde	8 White St	9214 6666	B1
2012/09/15	C225	Ziggy	Lee	17 Low St	9214 9999	B1, R2, W1
2013/01/05	C218	Sue	Armstrong	1 High St	9214 9999	B1, R2
2013/01/06	C334	Helen	Chin	6 Red Rd	9214 5555	B1

Customer Address List

Customer Name	Address	Phone
Joel Warren	7 Bluff Rd	9214 2277
Henry Ryde	8 White St	9214 6688
Sue Armstrong	1 High St	9214 9911
Ziggy Lee	17 Low St	9214 9944
Karin Black	1 Black St	9214 8822
Helen Chin	6 Red Rd	9214 5500
Clare Watts	15 Dale Rd	9214 1166
Ted Smith	7 John St	9214 8000
Ryan Chin	6 Red Rd	9214 5522
Sarah Charter	19 Hill Ave	9213 4477
Grant Simpson	23 Wall St	9213 3311