Coursework Task

Higher Information Systems

Valid for session 2009/2010 only

Please read Section I carefully before issuing materials to candidates.

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Coursework Task

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Section 1

Organisation and Conditions for Assessment

Organisation and Conditions for Assessment

The assessment is designed to test the candidate's ability to apply knowledge and understanding and practical skills, developed through study of the Relational Database Systems and Using Information Units. The mark out of 60 should be submitted to the SQA unscaled. This will be combined with the examination mark out of 140 to establish the candidate's overall grade of award. This mark should also be used in conjunction with internal examination marks or other evidence in the preparation of a candidate's estimated grade of performance.

The notional design length for the assessment is 8–10 hours. However, a candidate may be permitted additional time if required.

The assessment is to be undertaken under "open book" conditions, but under the supervision of a teacher or lecturer to ensure that the work submitted is the candidate's own work. The teacher or lecturer may give the candidate guidance and/or help if requested. Any such help should be reflected in the marks awarded. Once the task has been completed and marked, it should not be returned to the candidate for further work.

These instructions are designed to be used in conjunction with data files provided with the electronic distribution of the task. These can be downloaded from the SQA secure website.

Two versions of a database are being supplied this year. It is essential that candidates are issued with the correct version at the appropriate times. They must not be given access to the second version until they have submitted answers to prior tasks.

Special Arrangements for Higher Coursework 2009-2010

Centres are asked to pay special attention to the following arrangements.

Candidates are not required to spend time entering data into a database. Instead, the data should be prepared beforehand and provided to candidates by the centre.

To facilitate this, Microsoft Access (2003 format) and Filemaker (v.7) files as well as a text (tab) delimited file have been provided. It is intended that candidates will be provided with **two versions** of the database.

The **first database** contains three of the tables of the system; Customer, Resort and Trail. Each table will have all attributes correctly implemented although the tables will not be related. Candidates will be required to create the Booking table from the completed data dictionary and then set up the relationships between all the tables. Candidates will be required to submit a printout of the Documenter (or equivalent) of the **Booking table only** as evidence for Task 2(a). Evidence for Task 2(b) could be generated from the Documenter again (selecting only Relationships in the options) but the evidence must show three correct one-to-many relationships. Candidates will **not** use their database structures to complete Tasks 3-5. Instead, centres should issue candidates with the second, fully populated database.

The **second database** will be a complete implementation of the system. This will include all validations, relationships etc – ie an exact implementation of the data dictionary provided to candidates at Task 2. This working database should be issued to candidates **after** Task 2 has been submitted. Candidates **must** use this working database to complete Tasks 3-5.

Microsoft Access and Filemaker files are provided. Centres using other systems will require to create both versions of the database from the tab separated file provided. This file can also be used if centres encounter any difficulties with the supplied Access or Filemaker databases.

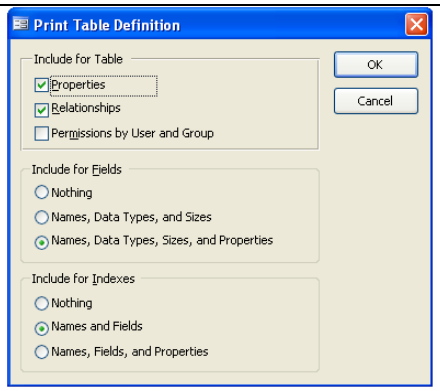
Additional notes follow which detail how candidate evidence is to be generated.

Notes:

Candidates should be given a copy of the marking grid from Section 3 (**not** the detailed marking instructions) before starting the task so that they are aware of the mark distribution for each part.

The entire Coursework Task consists of eight tasks. Centres should take note of the points detailed below for each task.

Task	Evidence
1	Hardcopy of proforma provided or can be produced by the candidate. **Task 1 must be completed and data dictionary handed in for marking before the materials for Task 2 are issued**.
2 (a)	Documenter (MS Access) printout or equivalent showing table structure for the Booking table only – ignore "Format" for marking purposes.
2 (b)	Printout showing correct cardinality of relationships (Documenter in Access can be used to produce **only** the relationships information through the options). o In FileMaker Pro8, to get a printout of the design, candidates should adhere to the following instructions. (1) Select the "Define" option from the File menu and then select the "Database" option from the sub-menu. (2) Click on the Tables tab. (3) Highlight both tables by clicking on the name of the first table then holding down the shift key and clicking on the other table. (4) Click on the Print button. o In MS Access, to get a printout of the design, candidates should adhere to the following instructions. (1) Select the "Analyze" option from the Tools menu and then select the "Documenter" option from the sub-menu. (2) Select the table(s) required and then click Options button. (3) Make sure that the following options are checked/selected: • Include for Table ➢ Properties ➢ Relationships • Include for Fields ➢ Names, Data Types, Sizes and Properties • Include for Indexes ➢ Names and Fields (4) Required table design is displayed on screen and can be printed.

	 Task 2 (b) also requires a printout or hardcopy of the relationships. o Printing Relationships in FileMaker 8. (1) Select the "Define" option from the File menu and then select the "Database" option from the sub-menu. (2) Click on the Relationships tab then click on the Print button. o Printing Relationships in Access (1) Open the Relationships window. (2) Select the "Print Relationships" option from the File menu.
3	Printout of report.
4	Printout of report.
5	Hardcopy that clearly shows use and details of macro or script (again, available through Documenter in Access – simply change options in dialogue box).
6	Two spreadsheet printouts – one showing values, one showing formulae. Printouts should be landscape, may require to be resized and, in the case of the formulae printout, will run to at least two pages.
7	Completed Gantt chart – sample answer was produced using MS Excel, however you may wish to use specific Gantt chart software which is freely available to download from the Internet. Positioning of tasks is crucial – see detailed marking instructions for further explanation. Critical path should also be listed below chart along with calculated value for minimum project completion time.
8	Single A4 printout of flyer.

Section 2

Coursework Task

Coursework Task: OneTwoSki

Higher Information Systems Coursework Task 2009-2010

Background

OneTwoSki is a company that owns and manages a number of ski resorts in Canada. All resort details are stored as part of a relational database in a table called **Resort**. Resort names are unique and some of the resorts have spa and/or crèche facilities. Each resort has a resort manager who stores customer bookings in the centralised relational database.

When a customer first makes a booking they must provide their ski ability level (Beginner, Intermediate or Expert) in addition to their contact details. This information is stored by OneTwoSki in a **Customer** table.

Customer bookings are made by a party leader and each party booking is made for skiers of the same ability. Details of customer bookings are stored in a **Booking** table. Each booking is allocated a unique 6-digit number. Other details stored include information on the number of people staying, the duration of the stay and the number of ski days booked. The minimum stay is three days and no booking is allowed for more than two weeks. Ski passes for ski days are available as 3-day, 5-day, 7-day, 10-day or 12-day tickets. Arrival dates are stored in the form dd/mm/yyyy.

The company pride themselves on the information they can offer to their customers about the ski trails available in each of their resorts. All ski trails are allocated a colour which indicates its level of difficulty as follows:

Green	Beginner
Blue	Intermediate
Red	Advanced
Black	Expert

Each ski trail is assigned a unique ID number along with information about is name, colour and length (km). These details are stored in the **Trail** table.

The normalised data model for OneTwoSki was produced and a surrogate key, **Booking Ref**, was introduced to the Booking table to simplify the implementation.

The resulting data model is shown below where primary keys are shown in **bold and underlined**, while asterisks (*) indicate foreign keys.)

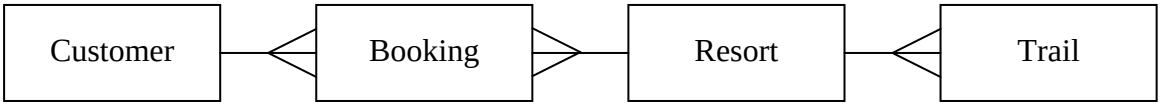
Customer (**Customer ID**, Firstname, Surname, Street, Town, Postcode, Ski Level)

Resort (**Resort**, Resort Manager, Resort Address, Spa, Crèche)

Booking (**Booking Ref**, Customer ID*, Resort*, Arrival Date, Persons, Nights, Ski Days)

Trail (**Trail ID**, Resort*, Trail Name, Colour, Length (km))

The entity-relationship diagram for the system is shown below.



The data dictionary for the Customer, Resort and Trail tables is shown below, followed by a partially competed data dictionary for the Booking table.

Entity	Attribute	PK/ FK	Data Type/Size	Unique	Required	Validation	Format
Customer	CustomerID	PK	Number	Y	Y	>=1 and <=9999	0000
	Firstname		Text (15)	N	Y		
	Surname		Text (20)	N	Y		
	Street		Text (30)	N	Y		
	Town		Text (20)	N	Y		
	Postcode		Text (8)	N	Y		
	Ski Level		Text (12)	N	Y	Restricted (Beginner, Intermediate, Expert)	
Resort	Resort	PK	Text (20)	Y	Y		
	Resort Manager		Text (35)	N	Y		
	Resort Address		Text (50)	Y	Y		
	Spa		Boolean	N	Y		
	Crèche		Boolean	N	Y		
Trail	Trail ID	PK	Number	Y	Y	>=1 and <=999	000
	Resort	FK	Text (20)	N	Y	Lookup from Resort	
	Trail Name		Text (30)	N	Y		
	Colour		Text (5)	N	Y	Restricted (Green, Blue, Red, Black)	
	Length (km)		Number	N	Y		

Booking						
Attribute	**PK/FK**	**Data Type/Size**	**Unique**	**Required**	**Validation**	**Format**
Booking Ref	PK	Number	Y	Y	**A**	000000
Customer ID	FK	Number	N	Y	**B**	0000
Resort	FK	Text (20)	N	Y	**C**	
Arrival Date		Date	N	Y		dd/mm/yyyy
Persons		Number	N	Y		
Nights		Number	N	Y	**D**	
Ski Days		Number	N	Y	**E**	

Task		**Evidence Required**
1	Using the background information provided in the introduction to the task, complete the data dictionary entries for the Booking table.	Completed data dictionary

You must now submit your answer to Task 1 to your teacher/lecturer.

Before attempting the tasks in this section ask your teacher/lecturer for a completed data dictionary.

You will also need access to pre-prepared database tables.

You **MUST** complete tasks in the sequence indicated.

Task		**Evidence Required**
2	Database tables have been created for the Customer, Resort and Trail entities.	
	(a) Using the completed data dictionary issued by your teacher/lecturer, create the Booking table. You should pay particular attention to: • data type • unique • required • validation • primary and foreign keys	Hardcopy (printout or screenshots) of **Booking table structure** including field types, validation checks etc.
	(b) Set up/edit the relationships between all the tables as indicated by the entity-relationship diagram.	Hardcopy (printout or screenshots) of relationships between tables – **evidence must show correct cardinality**

You must now submit all hardcopies for Task 2 to your teacher/lecturer.

Ask your teacher/lecturer for the <u>complete</u> database. This database must be used to carry out Tasks 3-5.

You work in the head office of OneTwoSki. Part of your job is to deal with customer queries. Use the database provided to produce reports for the following requests made by customers.

<table>
<tr><th colspan="2">Task</th><th>Evidence Required</th></tr>
<tr><td>3</td><td>An expert skier wanted to know which resorts were booked most often by people with his ski ability, so the following report was produced.

Bookings by expert party leaders

<table><tr><th>Resort</th><th>Number of bookings</th></tr><tr><td>CloudyBay</td><td>5</td></tr><tr><td>BlueRidge</td><td>4</td></tr><tr><td>SkyHaven</td><td>4</td></tr><tr><td>BlackBear</td><td>1</td></tr><tr><td>FreeSpirit</td><td>1</td></tr><tr><td>TranquilPeaks</td><td>1</td></tr><tr><td>Total bookings:</td><td>16</td></tr></table>
Another request has come in asking you to provide a similar report that shows the most popular resorts with Intermediate party leaders.

The list should be sorted with the most popular resort first. Where two or more resorts have the same number of bookings, they should be sorted alphabetically.

The total number of bookings should be displayed at the bottom of the report.</td><td>Printout of report/layout</td></tr>
</table>

Task		Evidence Required
4	A customer wanted to know the total lengths of the different trail colours at the BlackBear resort, as well as the total trail length for the resort. OneTwoSki provided the following report. **Trail lengths - BlackBear Resort** BlackBear — Colour: Blue 28.7; Red 24.8; Green 14.8; Black 12.7 **Total length of runs (km)** 81.0 Another customer has asked you for the same information about trail lengths but wants this for all resorts that have crèche facilities. The information should be sorted by resort and the trail details for each resort should be displayed with the colour of trail with the longest length first. Trail lengths should be displayed to one decimal place.	Printout of report/layout

Task		Evidence Required
5	A customer has requested a quicker way of navigating through the list of ski trails available. You have been asked to design a new form/layout for the Trail table that includes navigation buttons to skip forward and back 10 trails at a time. When you click on the forward button, for example, the pointer or cursor should skip to the 10th record then the 20th record, and so on. The new form/layout does not necessarily have to display only 10 trails at a time – it should simply allow this quicker method of navigation. These buttons should make use of a macro or script to control the navigation.	Screenshots of form/layout Printout of macros/ scripts used to control navigational features

One of your other responsibilities in head office is to prepare a range of financial statements for both the company and customers. The CloudyBay resort has provided you with a list of customer bookings and you have to prepare customer bills.

You have been provided with a template spreadsheet and have been asked to generate the customer bills by completing columns H through to M for the twelve listed bookings.

The columns are detailed as follows.

H	Ski Pass Price (pp)	The price of each ski pass per person – dependent on the number of ski days – values obtained from cells A17:B22.
I	Total Ski Price	The sum of ski passes for all persons in the party.
J	Accomm (pppn)	Accommodation price per person per night – dependent on the number of nights stayed – values obtained from cut-off ranges in cells D17:E22.
K	Accomm (total)	Total accommodation charge for the party as a whole.
L	Discount (accomm)	Discount that may apply to the accommodation total, dependent on the number of persons in the party
M	Total Bill	Total bill of ski passes, accommodation and any discount that may apply

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Booking Ref	Customer ID	Firstname	Surname	Persons	Nights	Ski Days	SkiPass Price (pp)	Total Ski Price	Accomm (pppn)	Accomm (total)	Discount (accomm)	Total Bill
2	093104	2632	Yvonne	Harrison	8	3	3						
3	104009	4559	Paul	Taylor	4	10	7						
4	252911	6738	Dominic	Hewitt	2	12	10						
5	305760	2478	Albert	Tuba	7	14	12						
6	487030	7072	Madina	Neale	5	4	3						
7	516708	5386	Alison	Hewitt	9	13	12						
8	551329	1251	Elaine	Malcolm	3	11	7						
9	578565	2086	Natalie	Lott	4	14	12						
10	644751	5681	Olivia	Green	7	8	7						
11	751345	6067	Linda	Smith	10	11	10						
12	754766	6032	Thomas	Ingram	5	7	5						
13	783277	8854	Isla	Murchison	8	12	10						
14													
15													
16													
17	Ski Pass (days)	Price		Nights	Price								
18	3	$90.00		3	$50.00								
19	5	$130.00		5	$45.00								
20	7	$180.00		8	$40.00								
21	10	$250.00		11	$35.00								
22	12	$300.00		13	$30.00								

Task			Evidence Required
6	Using spreadsheet software with which your are familiar, create the set of customer bills for the CloudyBay resort using the specification below.		Two printouts – one printout showing values – one printout showing formulae printouts should be landscape, may require to be resized and, in the case of the formulae printout, will run to at least two pages
	(a)	The spreadsheet should make use of **lookup** functions to automatically insert prices for the type of ski pass price (per person) purchased and the accommodation per person per night (pppn) using the data shown in the template.	
	(b)	Customers can qualify for additional discounts **on their accommodation** depending on the number of persons in the party. There is no discount available if there are less than four people in the party. If there are four or more in the party there is a discount of 5%. If there are six or more in the party the discount is 10% and if there are more than eight in the party, the maximum discount of 15% applies. Your spreadsheet should make use of a **nested IF** to calculate what discount, if any, applies to each customer's accommodation bill.	
	(c)	The total bill for each customer should take into account the cost of their ski passes, accommodation and any discount that may apply to the accommodation.	

OneTwoSki is planning to open a new resort and has identified the tasks that need to be completed for the project to be a success.

As part of the project management of building the new resort, head office has asked that you prepare a Gantt chart of all the tasks involved.

The table below details the tasks required to build the new resort, including the minimum time each task requires to be completed. The table also identifies which tasks need to be completed before the next task can be started.

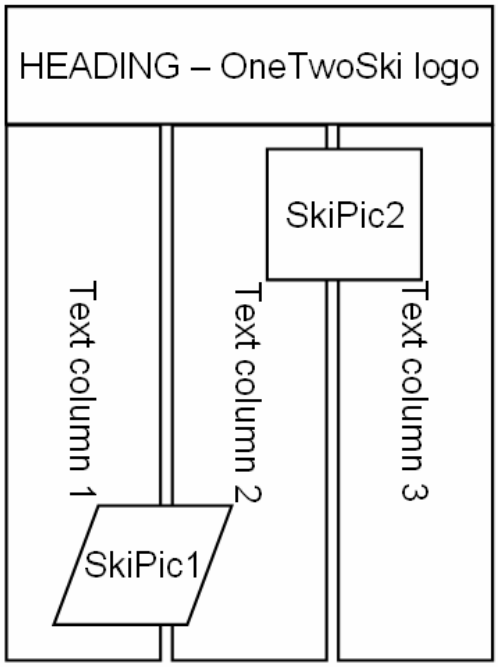
Task	Details	Immediate Predecessor	Duration (weeks)
A	Inform existing/potential customers	–	6
B	Design drawings for the resort produced	–	4
C	Create promotional flyer	B	3
D	Apply for Planning Permission	B	2
E	Planning Permission obtained	D	4
F	Select building contractor	B	4
G	Construction of new resort	E,F	15
H	Advertise for staff	–	4
I	Appoint staff for new resort	H	4
J	Secure bookings for new resort	A,C	10
K	Hotel opens	G,J,I	1

Task		Evidence Required
7	Using suitable software create a Gantt chart that represents the project to build the new resort. (A sample chart has been started and is included below.) Using the timings provided, calculate the minimum time to complete the project; ie the critical path. State the critical path of the project by listing the tasks in the order in which they must be completed. Include a statement below your Gantt chart that lists the critical path and shows the minimum time for the project to be completed.	Printout showing complete Gantt chart with critical path highlighted/ listed and minimum time for project completion

Sample Gantt chart (incomplete).

Task	Weeks																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
A - inform customers																																
B - design drawings																																
C - create flyer																																
D - apply for planning permission																																
E - planning permission obtained																																
F - select building contractor																																
G - construction																																
H - advertise for staff																																
I - appoint staff																																
J - secure bookings																																
K - resort opens																																

The marketing of the new resort requires the production of a promotional A4 flyer. Head Office have decided on a layout for the flyer as is shown below.



They have also provided you with some data files and asked that you create the promotional flyer using the specification detailed below.

Task		**Evidence Required**
8	Using the files provided, create an A4, single sheet, promotional flyer for the new resort ensuring that: • the OneTwoSKi logo, imported from the file provided, is to be used as the heading and covers the width of the page • the body text, imported from the text file provided, is an appropriate size to ensure it is readable and fits on one page and a sans-serif font is used throughout • the body text has to flow across three evenly spaced columns • SkiPic1.jpg should have tight wrap applied so the text flows around the shape of the skier across columns 1 and 2 • SkiPic2.jpg requires some of the blue ski to be cropped and should have square text wrap applied across columns 2 and 3.	Printout of flyer

Section 3

Marking Grid

Marking Grid

Name _____ **Date** _____

Task	Possible Marks	Actual Marks	Evidence	Comment
1.	5		Completed data dictionary	
2.(a)	4		Printout of table structure	
2.(b)	3		Printout showing relationships	
3.	6		Printout of report	
4.	8		Printout of report	
5.	4		Printout of macros/scripts	
6.	12		Values printout Formulae printout	
7.	10		Printout of Gantt chart	
8	8		Printout of flyer	
	60			

Appendix 1

Task 1 Proforma

Name	
Data Dictionary Entry	
A	
B	
C	
D	
E	

Appendix 2

Completed Data Dictionary

Only to be issued after completion and submission of Task 1

Entity	Attribute	PK/ FK	Data Type/Size	Unique	Required	Validation	Format
Customer	CustomerID	PK	Number	Y	Y	>=1 and <=9999	0000
	Firstname		Text (15)	N	Y		
	Surname		Text (20)	N	Y		
	Street		Text (30)	N	Y		
	Town		Text (20)	N	Y		
	Postcode		Text (8)	N	Y		
	Ski Level		Text (12)	N	Y	Restricted (Beginner, Intermediate, Expert)	
Resort	Resort	PK	Text (20)	Y	Y		
	Resort Manager		Text (35)	N	Y		
	Resort Address		Text (50)	Y	Y		
	Spa		Boolean	N	Y		
	Crèche		Boolean	N	Y		
Trail	Trail ID	PK	Number	Y	Y	>=1 and <=999	000
	Resort	FK	Text (20)	N	Y	Lookup from Resort	
	Trail Name		Text (30)	N	Y		
	Colour		Text (5)	N	Y	Restricted (Green, Blue, Red, Black)	
	Length (km)		Number	N	Y		
Booking	Booking Ref	PK	Number	Y	Y	>=1 and <=999999	000000
	Customer ID	FK	Number	N	Y	Lookup from Customer	0000
	Resort	FK	Text (20)	N	Y	Lookup from Resort	
	Arrival Date		Date	N	Y		dd/mm/yyyy
	Persons		Number	N	Y		
	Nights		Number	N	Y	>=3 and <=14	
	Ski Days		Number	N	Y	Restricted (3,5,7,10,12)	

Appendix 3

Detailed Marking Instructions

Strictly Confidential

Detailed Marking Instructions – Do not issue to candidates.

				Marks
1	A – Booking Ref	5	Validation (>=0 and <=999999)	1
	B – Customer ID		Validation (Lookup from Customer)	1
	C – Resort		Validation (Lookup from Resort)	1
	D – Nights		Validation (>=3 and <=14)	1
	E – Ski Days		Validation (Restricted (3,5,7,10,12))	1
2	Create Booking table	4	7 attributes all correct	4
			6 attributes correct	3
			5 attributes correct	2
			4 attributes correct	1
			<4 attributes correct	0
	Links between tables	3,2,1,0	3 correct one-to-many relationships	
3	Most booked resorts for Intermediate skiers	6	Intermediate bookings only (correct data)	1
			Count of bookings	1
			Total intermediate bookings	1
			1st sort condition (Booking Desc)	1
			2nd sort condition (Resort name Asc)	1
			Only required fields shown (Resort and Booking)	1
4	Trail lengths of resorts with crèche facilities	8	Grouped by Resort	1
			Sum of trail lengths	1
			Crèche resorts only	1
			Total trail length for resort	1
			1st sort condition (Resort Asc)	1
			2nd sort condition (trail length Desc)	1
			Trail lengths displayed to 1 decimal place	1
			Only required fields (Resort, Colour, Length)	1
5	Navigate Trail table 10 at a time	4	Next button – 1 mark button, 1 mark increment	
			Prev button – 1 mark button, 1 mark increment	

				Marks
6	Lookup for Ski Pass	2	Must have absolute ref or named ranges Award 2 marks if completed with no help Award 1 mark if some help required	
	Lookup for Accom (pppn)	2	Must have absolute ref or named ranges Award 2 marks if completed with no help Award 1 mark if some help required	
	Total Ski Price	1		
	Accom Total	1		

	Discount – nested IF	5	Eg IF(E2>8,K2*0.15,IF(E2>=6,K2*0.1,IF(E2>=4,K2*0.05,0)))
			
			IF(E2>8,K2*0.15
			IF(E2>=6,K2*0.1
			IF(E2>=4,K2*0.05
			0)))
			
			No help required
				
				1
				1
				1
				1
				
				1

	Total Bill	1		
7	Gantt Chart	10	10 correctly positioned tasks (B-K) 9 correctly positioned tasks 8 correctly positioned tasks 7 correctly positioned tasks 6 correctly positioned tasks 5 correctly positioned tasks 4 correctly positioned tasks 3 correctly positioned tasks <3 correctly positioned tasks Critical Path identified as B-D-E-G-K Critical Path calculated as 26 weeks	8 7 6 5 4 3 2 1 0 1 1
8	DTP – flyer	8	Import heading and use page width Import text file Body text appropriate size (readable) All body text visible on one page Sans-serif font throughout 3-column text flow SkiPic1 position and text wrap SkiPic2 position and text wrap	1 1 1 1 1 1 1 1

Appendix 4

Screenshots showing solutions to Tasks 1, 3, 4, 6, 7 and 8

Task 1

Booking						
Attribute	**PK/FK**	**Data Type/Size**	**Unique**	**Required**	**Validation**	**Format**
Booking Ref	PK	Number	Y	Y	**>=1 and <=999999**	000000
Customer ID	FK	Number	N	Y	**Lookup from Customer**	0000
Resort	FK	Text (20)	N	Y	**Lookup from Resort**	
Arrival Date		Date	N	Y		dd/mm/yyyy
Persons		Number	N	Y		
Nights		Number	N	Y	**>=3 and <=14**	
Ski Days		Number	N	Y	**Restricted (3,5,7,10,12)**	

Task 3

Bookings by Intermediate party leaders

Resort	Number of bookings
CloudyBay	7
TranquilPeaks	7
ForestGreen	6
BlueRidge	4
SkyHaven	3
BlackBear	2
FreeSpirit	2
Total bookings:	31

Trail lengths - Resorts with Creche

BlueRidge	**Colour**	**Trail length (km)**
	Blue	56.5
	Red	23.7
	Black	22.7
	Green	3.1
Total length of runs (km)		**106.0**

ForestGreen	**Colour**	**Trail length (km)**
	Blue	59.2
	Red	27.8
	Black	8.5
	Green	5.3
Total length of runs (km)		**100.8**

SkyHaven	**Colour**	**Trail length (km)**
	Red	51.5
	Blue	28.1
	Green	9.5
	Black	9.0
Total length of runs (km)		**98.1**

TranquilPeaks	**Colour**	**Trail length (km)**
	Red	47.2
	Blue	18.0
	Green	9.4
	Black	4.8
Total length of runs (km)		**79.4**

Task 6

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**Booking Ref**	**Customer ID**	**Firstname**	**Surname**	**Persons**	**Nights**	**Ski Days**	**SkiPass Price (pp)**	**Total Ski Price**	**Accomm (pppn)**	**Accomm (total)**	**Discount**	**Total Bill**
2	093104	2632	Yvonne	Harrison	8	3	3	$90.00	$720.00	$50.00	$1,200.00	$120.00	$1,800.00
3	104009	4559	Paul	Taylor	4	10	7	$180.00	$720.00	$40.00	$1,600.00	$80.00	$2,240.00
4	252911	6738	Dominic	Hewitt	2	12	10	$250.00	$500.00	$35.00	$840.00	$0.00	$1,340.00
5	305760	2478	Albert	Tuba	7	14	12	$300.00	$2,100.00	$30.00	$2,940.00	$294.00	$4,746.00
6	487030	7072	Madina	Neale	5	4	3	$90.00	$450.00	$50.00	$1,000.00	$50.00	$1,400.00
7	516708	5386	Alison	Hewitt	9	13	12	$300.00	$2,700.00	$30.00	$3,510.00	$526.50	$5,683.50
8	551329	1251	Elaine	Malcolm	3	11	7	$180.00	$540.00	$35.00	$1,155.00	$0.00	$1,695.00
9	578565	2086	Natalie	Lott	4	14	12	$300.00	$1,200.00	$30.00	$1,680.00	$84.00	$2,796.00
10	644751	5681	Olivia	Green	7	8	7	$180.00	$1,260.00	$40.00	$2,240.00	$224.00	$3,276.00
11	751345	6067	Linda	Smith	10	11	10	$250.00	$2,500.00	$35.00	$3,850.00	$577.50	$5,772.50
12	754766	6032	Thomas	Ingram	5	7	5	$130.00	$650.00	$45.00	$1,575.00	$78.75	$2,146.25
13	783277	8854	Isla	Murchison	8	12	10	$250.00	$2,000.00	$35.00	$3,360.00	$336.00	$5,024.00
14													
15													
16													
17	**Ski Pass (days)**	**Price**		**Nights**	**Price**								
18	3	$90.00		3	$50.00								
19	5	$130.00		5	$45.00								
20	7	$180.00		8	$40.00								
21	10	$250.00		11	$35.00								
22	12	$300.00		13	$30.00								

Task 6 (continued)

	A	B	C	D	E	F	G	H	I
1	Booking Ref	Customer ID	Firstname	Surname	Persons	Nights	Ski Days	SkiPass Price (pp)	Total Ski Price
2	93104	2632	Yvonne	Harrison	8	3	3	=VLOOKUP(G2,$A$18:$B$22,2,FALSE)	=E2*H2
3	104009	4559	Paul	Taylor	4	10	7	=VLOOKUP(G3,$A$18:$B$22,2,FALSE)	=E3*H3
4	252911	6738	Dominic	Hewitt	2	12	10	=VLOOKUP(G4,$A$18:$B$22,2,FALSE)	=E4*H4
5	305760	2478	Albert	Tuba	7	14	12	=VLOOKUP(G5,$A$18:$B$22,2,FALSE)	=E5*H5
6	487030	7072	Madina	Neale	5	4	3	=VLOOKUP(G6,$A$18:$B$22,2,FALSE)	=E6*H6
7	516708	5386	Alison	Hewitt	9	13	12	=VLOOKUP(G7,$A$18:$B$22,2,FALSE)	=E7*H7
8	551329	1251	Elaine	Malcolm	3	11	7	=VLOOKUP(G8,$A$18:$B$22,2,FALSE)	=E8*H8
9	578565	2086	Natalie	Lott	4	14	12	=VLOOKUP(G9,$A$18:$B$22,2,FALSE)	=E9*H9
10	644751	5681	Olivia	Green	7	8	7	=VLOOKUP(G10,$A$18:$B$22,2,FALSE)	=E10*H10
11	751345	6067	Linda	Smith	10	11	10	=VLOOKUP(G11,$A$18:$B$22,2,FALSE)	=E11*H11
12	754766	6032	Thomas	Ingram	5	7	5	=VLOOKUP(G12,$A$18:$B$22,2,FALSE)	=E12*H12
13	783277	8854	Isla	Murchison	8	12	10	=VLOOKUP(G13,$A$18:$B$22,2,FALSE)	=E13*H13
14									
15									
16									
17	Ski Pass (days)	Price		Nights	Price				
18	3	90		3	50				
19	5	130		5	45				
20	7	180		8	40				
21	10	250		11	35				
22	12	300		13	30				

Task 6 (continued)

	J	K	L	M
1	Accomm (pppn)	Accomm (total)	Discount	Total Bill
2	=VLOOKUP(F2,$D$18:$E$22,2)	=F2*J2*E2	=IF(E2>8,K2*0.15,IF(E2>=6,K2*0.1,IF(E2>=4,K2*0.05,0)))	=(K2-L2)+I2
3	=VLOOKUP(F3,$D$18:$E$22,2)	=F3*J3*E3	=IF(E3>8,K3*0.15,IF(E3>=6,K3*0.1,IF(E3>=4,K3*0.05,0)))	=(K3-L3)+I3
4	=VLOOKUP(F4,$D$18:$E$22,2)	=F4*J4*E4	=IF(E4>8,K4*0.15,IF(E4>=6,K4*0.1,IF(E4>=4,K4*0.05,0)))	=(K4-L4)+I4
5	=VLOOKUP(F5,$D$18:$E$22,2)	=F5*J5*E5	=IF(E5>8,K5*0.15,IF(E5>=6,K5*0.1,IF(E5>=4,K5*0.05,0)))	=(K5-L5)+I5
6	=VLOOKUP(F6,$D$18:$E$22,2)	=F6*J6*E6	=IF(E6>8,K6*0.15,IF(E6>=6,K6*0.1,IF(E6>=4,K6*0.05,0)))	=(K6-L6)+I6
7	=VLOOKUP(F7,$D$18:$E$22,2)	=F7*J7*E7	=IF(E7>8,K7*0.15,IF(E7>=6,K7*0.1,IF(E7>=4,K7*0.05,0)))	=(K7-L7)+I7
8	=VLOOKUP(F8,$D$18:$E$22,2)	=F8*J8*E8	=IF(E8>8,K8*0.15,IF(E8>=6,K8*0.1,IF(E8>=4,K8*0.05,0)))	=(K8-L8)+I8
9	=VLOOKUP(F9,$D$18:$E$22,2)	=F9*J9*E9	=IF(E9>8,K9*0.15,IF(E9>=6,K9*0.1,IF(E9>=4,K9*0.05,0)))	=(K9-L9)+I9
10	=VLOOKUP(F10,$D$18:$E$22,2)	=F10*J10*E10	=IF(E10>8,K10*0.15,IF(E10>=6,K10*0.1,IF(E10>=4,K10*0.05,0)))	=(K10-L10)+I10
11	=VLOOKUP(F11,$D$18:$E$22,2)	=F11*J11*E11	=IF(E11>8,K11*0.15,IF(E11>=6,K11*0.1,IF(E11>=4,K11*0.05,0)))	=(K11-L11)+I11
12	=VLOOKUP(F12,$D$18:$E$22,2)	=F12*J12*E12	=IF(E12>8,K12*0.15,IF(E12>=6,K12*0.1,IF(E12>=4,K12*0.05,0)))	=(K12-L12)+I12
13	=VLOOKUP(F13,$D$18:$E$22,2)	=F13*J13*E13	=IF(E13>8,K13*0.15,IF(E13>=6,K13*0.1,IF(E13>=4,K13*0.05,0)))	=(K13-L13)+I13
14				
15				
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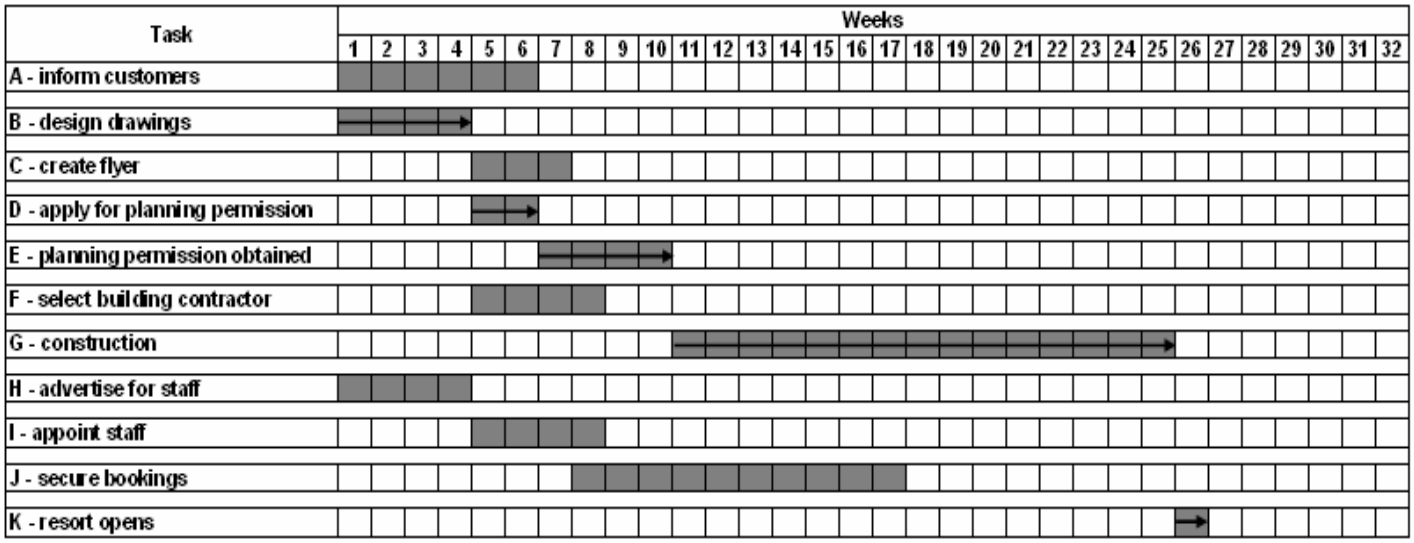
Task7



Indicates critical path: B-D-E-G-K

Task	Position
B	must be weeks 1-4
C	any 3 weeks after week 4 but must be completed by week 15
D	must be weeks 5-6
E	must be weeks 7-10
F	any 4 weeks between weeks 5-10
G	must be weeks 11-25
H	any 4 weeks but must be completed by week 21
I	any 4 weeks between weeks 5-25 but must start after H
J	any 10 weeks between weeks 8-25 but must start after both A and C
K	must be week 26

Minimum time for project completion – 26 weeks (B+D+E+G+K)

Task 8

Sample Flyer – provided as part of sample answers as a guide only

OneTwoSki RockRidge

RockRidge, OneTwoSki's newest resort, has a lot to offer; alpine bowls, wide-open glaciers, gladed trees and perfectly-groomed cruisers. With epic annual snowfall and 8171 acres of terrain, you can indulge to your heart's content. And it doesn't end on the mountain; our nightlife keeps the evenings as festive as your days. Enjoy a great meal, live music and the diverse culture of a destination that understands how to have it all.

You've probably heard a lot of unbelievable stories about us; our variety of terrain, massive snowfall and amazing array of on mountain and après activities. It's all true; we've got something for everyone at RockRidge.

Something for everyone

RockRidge is the ideal destination for your perfect getaway; our pedestrian village is easily accessible and is walking distance to a huge variety of great restaurants, funky shops and lifts to the slopes. Stay in the centre of the action in RockRidge Village and still be walking distance to the amenities of the Upper Village.

Apres & Nightlife

Nothing beats taking your skis or board off after the last run of the day and heading to après ski with friends. And you don't have to go far: Go Go Lift Co. and other great pubs are right at the mountains' base so come join in the fun. And for those looking for a more mellow scene, there's plenty to do. From browsing through shops and art galleries to taking a soothing soak in a hot tub, the fun is just getting started once the lifts stop.

Shopping

RockRidge Village is home to everything from high-end boutiques and souvenir stops to ski and snowboard shops offering the latest gear. Whether it's a gift for someone special or the pair of goggles you left at home, RockRidge Village has it.

Dining

Looking for an evening of fine wine and world-class cuisine? Or just need something quick before you head up the mountain? Maybe you'd like a pub to share a beer and food with some friends? You'll find it all and more here.

Spa & Relaxation

Nothing beats a full day of outdoor fun, except one that ends with a massage or a spa treatment. You'll find a wide selection of spas and wellness centres, like the award-winning Solarice Spa or the new Le Scandinave Spa RockRidge. Plan for it and book today.

Family Activity

Both on and off the mountain, RockRidge offers more family activities than you'll find anywhere. Opt for something a little different like a horse-drawn sleigh ride, snowshoe tour or the funtastic Castle Tree Fort. And of course, everyone loves the Tube Park!

Adventure Activity

RockRidge is a utopia for the adventurous spirit. Heli-skiing, snowmobiling, Zip-trekking and bungee jumping are just a few of the options to get your blood pumping. Book your adventure and lifetime memories at the same time. We look forward to welcoming you soon.