FIT2094 Databases

Conceptual Model - World Cruises (WC)

Purpose	Given the provided case study, students are asked to transform the information provided in the case study into a full conceptual model as the first step towards a database design. This task covers learning outcomes: 1. Apply the theories of the relational database model; 2. Develop a sound relational database design;
Your task	This is an open book, group task (students will work in groups of two or three students with members selected randomly). The final output for this task will be a PDF document of a conceptual model as the first step towards a relational database design in assignment 1B
Value	**10%** of your total marks for the unit
Due Date	**Thursday, 31 March 2022, 4:30 PM (AEDT) / 1:30 PM (MYT)**
Submission	● Via Moodle Assignment Submission. ● FIT GitLab check ins will be used to assess history of development
Assessment Criteria	● Identification of the entities which support the case study. ● Identification and placement of attributes to support the case study. ● Determination of relationships which support the case study. ● Consistent use of industry standard notation and convention
Late Penalties	● 10% deduction per calendar day or part thereof for up to one week ● Submissions more than 7 calendar days after the due date will receive a mark of zero (0) and no assessment feedback will be provided.
Support Resources	See Moodle Assessments page
Feedback	Feedback will be provided on student work via: ● general cohort performance ● specific student feedback ten working days post submission ● *a sample solution following assignment 1B marking*

INSTRUCTIONS

Your task for this assignment is to design a model for a database which can be used to support the activities of a travel business called World Cruises (WC).

World Cruises books passengers on ships which host cruises that originate from various ports around the world. Each ship is operated by a particular company known as the operator. Each operator is assigned an operator id as an identifier and has the company's name and Chief Executive Officer's name recorded. A given operator may operate one or more ships. For each ship, World Cruises records a ship code to identify the ship, the ship's name, the date the ship was commissioned, the ship's tonnage, its maximum guest capacity and the name of the country in which the ship is registered.

The cabins on a given ship are identified by a cabin number (such numbers may be reused across ships eg. many ships may have a cabin D1). World Cruises records for a given ship, the capacity of a particular cabin and the class of the cabin (this class classifies the quality of the experience and services available).

A cruise makes use of a particular ship (a cruise only uses one ship) and departs on a particular date. Each such cruise is identified by a cruise id. World Cruises records the name of the cruise and a brief description of the cruise. Some cruises depart from a particular port, such as Sydney Australia, cruise on the open sea without any landfall and then return to the departure port. Other cruises may depart from a particular port, such as Sydney Australia and complete the cruise at a different port, such as Marina Bay Cruise Centre, Singapore. Some cruises will visit many ports along the way. For example the cruise which travels from Sydney to Marina Bay Cruise Centre may stop at various Pacific Island ports along the way. A port which is visited in this way may result in an overnight (or longer stay), or the cruise may arrive and depart on the same day. World Cruises records all departure and arrival times for a given cruise.

All ports involved in a cruise have a port code recorded to identify the port. The port's name, the country the port is in, the port population and the longitude and latitude are recorded.

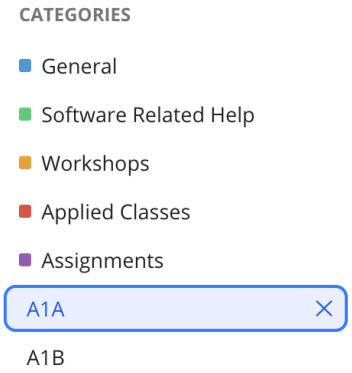
Passengers register with World Cruises when they make their first cruise booking. Each passenger is assigned a unique id. The passenger's name is recorded as first name and last name. World Cruise also records the passenger's gender and date of birth. If the passenger is a minor (ie. under 18 years of age), a booking can only be accepted if another passenger on the same cruise can act as a guardian. The guardian must be identified by the system.

Each passenger's address as a street (including street number), town, postcode and country are recorded. When the members of a particular family book on a cruise they often all have the same address.

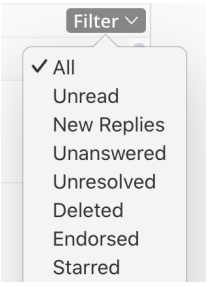
World Cruises maintains a manifest for all cruises they manage. This manifest records for each cruise, the cabin which has been allocated for each passenger (this allocation is carried out when the passenger is booked on the cruise). All cruises board passengers only at the cruise's originating port. For each passenger taking part in a cruise, WC also records the date and time when they first boarded the ship.

REMEMBER you must keep up to date with the Moodle Ed Assignment 1A forum where further clarifications may be posted (this forum is to be treated as your client).

To view Assignment 1A only posts, select the Assignment and then the Assignment 1A forum from the Categories list in the left panel.



Once selected you can Filter the posts via the Filter option at the top of the list of posts:



Please be careful to ensure you do not publicly post anything which includes your reasoning, logic or any part of your work to this forum, **doing so violates Monash plagiarism/ collusion rules and has significant academic penalties**. *Use private posts or email your allocated tutor to raise questions which may reveal part of your reasoning or solution.*

You are free to make assumptions if needed however they must align with the details here and in the assignment forums and must be clearly documented (see the required submission files). Normally such assumptions would only relate to minimum cardinality where not expressed in the case study.

Group Communication

Your group should make use of your private group channel in MS Teams for group communication during this assignment. Microsoft Teams provides facilities to support group interaction including chat, group email, shared desktop, meetings, video/audio calling and shared files.

Please ensure you use your private group channel, not the General channel. Activity in your private group channel is only visible to your group members and the teaching staff. It is important that you use Microsoft Teams for your group activities as it may be necessary for your marker to check the group members' contributions to the task and attendance at meetings - such a decision will be based on the activity in your private group channel.

TASKS to be Completed

Please **ENSURE** you include your **group name (eg. Group01) on every page of any document you submit**. If a document is a multipage document, please also make sure you include page numbers on every page.

GIT STORAGE

Your work for these tasks **MUST** be saved in your group's working directory in the Assignment 1A folder and ***regularly pushed to the FIT GitLab server*** to build a clear history of development of your model. Any submission with less than six pushes to the FITGitLab server will incur a grade penalty of 10 marks (a 10 mark deduction). Please note that six pushes is a minimum, in practice we would expect significantly more. This number of pushes must be evenly distributed amongst group members.

Groups must regularly check that their pushes have been successful by logging in to the web interface of the FIT GitLab server; you must not simply *assume* they are working. Before submission, via Moodle, you **must** log in to the web interface of the GitLab server and ensure your submission files are present on the GitLab server.

GIT automatically maintains a history of all files pushed to the server, you do not need to, *and MUST not,* add a version name to your various versions, please ensure you use the same name for all versions of a particular file. Check Git File Versions video under week 3 block on Moodle if you need to clarify this.

The tasks to complete:

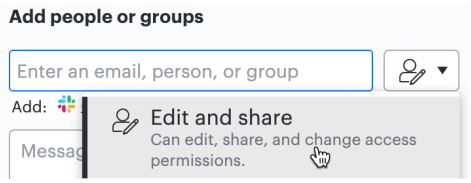
(i) Using LucidChart, prepare a **FULL conceptual model** (Entity Relationship Diagram) using crow's foot notation for the World Cruises (WC) described above.

- For this FULL conceptual model (ERD), include:
    - identifiers (keys) for each entity
    - all required attributes, and
    - all relationships. Cardinality (min and max) and connectivity for all relationships must be shown on the diagram.
- **Surrogate keys must not be added to this model**.

Your model must conform to the unit ERD standards listed in week 3 applied class document (page 7)

Note that you can share your LucidChart working model between group members via the Share button

in the top right of an open LucidChart document - one student in the group should set up the initial model in a new empty tab and then share this with fellow group members, giving the other group members edit access:



(ii) Maintain a Group Diary which records when the group met/communicated to discuss/work on the task, including the date, who was present and a brief statement of what occurred. This Group Diary must be maintained in Microsoft Teams as a shared document in your private group channel.

As part of submission of your assignment *each* group member will be required to provide confidential feedback on the group members performance/interactions. ***Where uneven contributions to the task are noted the awarded mark will be amended (reduced) for members who have not fully participated.***

Submission Requirements

The following files are to be submitted and **must exist** in your Group FITGitLab server repo:

- A **single page pdf file** containing your full final conceptual model. Name the file **wc_conceptual.pdf**. This file must be created via File - Export (or Download As) - PDF from LucidChart (**do not use screen capture**) and must be able to be accessed with a development history via GIT. You can create this development history by downloading your PDFs (don't forget to use the same name) and committing/pushing to GIT as you work on your model.

- A PDF document containing any assumptions you wish to make your marker aware of. Name the file **wc_assumptions.pdf**. If you have made no assumptions, submit the document with a single statement saying "No assumptions made". The source document, as an MS Word document must be available in your MS Teams private group channel.

- A PDF document of your Group Diary named as **wc_group##_diary.pdf** (replace ## with your group number eg. wc_group01_diary.pdf for Group01). The source document, as an MS Word document must be available in your MS Teams private group channel.

These **three PDF files must be submitted via Moodle before the due date/time** (times are expressed in Aust/Melbourne local time). Do not zip these files into one zip archive, submit three independent PDF files. **The files only need to be submitted by one member of the group after the group has agreed that the submission is complete and ready to be graded**.

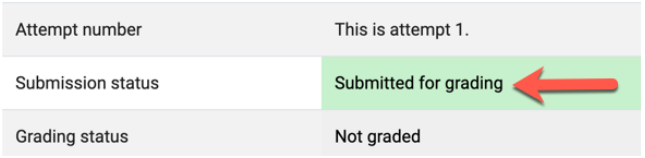
Late submission will incur penalties as outlined in the unit guide (10 marks deduction per 24 hours or part thereof).

Please note we **cannot mark any work on the Git Server**, you need to ensure that you submit correctly via Moodle since it is only in this process that you complete the required student declaration without which work **cannot be assessed**.

It is your responsibility to **ENSURE** that the files you submit are the correct files - we strongly recommend after uploading a submission, and prior to actually submitting in Moodle, that you download the submission and double-check its contents.

Your assignment **MUST** show a status of "Submitted for grading" before it will be marked.

Submission status



If your submission shows a status of "Draft (not submitted)" it will not be assessed and **will incur late penalties after the due date/time**. Please ***carefully*** read the documentation under "Assignment Task Submission" on the Moodle Assessments page.

Marking Guide

Submitted models will be assessed against the optimal solution for this modelling task - this optimal solution will be available as a sample solution after assignment 1B has been graded.

Marking Criteria	**Items assessed**
Identification of the entities which support the case study.	**Maximum 20 marks - Entities:** ● Marks awarded for each correct entity identified ● Mark penalty for unnecessary entities included **Maximum 10 marks - Keys:** ● Marks awarded for each correct key selected ● Mark penalty for surrogate or foreign keys added
Identification and placement of attributes to support the case study.	**Maximum 30 marks - Attributes:** ● Marks awarded for each necessary attribute identified ● Mark penalty for extra attributes included ● Marks penalty for placement of attribute in incorrect entity
Determination of relationships which support the case study.	**Maximum 10 marks - Relationships:** ● Marks awarded for each correct relationship identified ● Mark penalty for unnecessary relationships included ● Mark penalty for redundant relationships included **Maximum 20 marks - Cardinality:** ● Marks awarded for correct minimum and maximum cardinality for every correct relationship
Consistent use of industry standard notation and convention	**Maximum 10 marks - Modelling standards:** ● Marks awarded for application of Unit ERD notation convention ● Mark penalty for use of PK/FK labels ● Mark penalty for incorrectly depicted identifying/non identifying relationships based on determined keys
Penalty Criteria	**Penalty Applied**
Limited/No push of model to FITGitLab server resulting in lack of development history.	If less than six pushes showing a clear development history a ***grade deduction of 10 marks applied***.
Evidence of uneven contribution by a member/s towards group goals.	Where uneven contributions to the task are noted the ***awarded mark will be amended (reduced) for members who have not fully participated***.