ISYS2120 – sem2 2022

Online Exam Review

(week 13 lecture)

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Reminder

- Fill out online Unit of Study Survey
  - Answer a few questions online at https://student-surveys.sydney.edu.au/students/
  - Use the free text to help us make this better for next years students
  - “Pay it forward”

Reminder

- Work through the lab13 “revision questions”
  - Pay attention to the suggested timing (which includes the time to plan, and type the answer in the textbox, and then check/revise)
- Prepare for using ProctorU Record+ for the exam (next slide)

Reminder: do the ProctorU Record+ preparation steps

- **Create a ProctorU account and download the ProctorU browser extension for Chrome or Firefox.**
  - https://canvas.sydney.edu.au/courses/23380/pages/set-up-your-computer-and-space-for-record+
- **Take the ProctorU Record+ practice** so you can test out your computer and internet and so you know what to expect when your real exam starts. If you have done this before I still recommend doing it again before this semester's **exam** as the practice test is updated at the start of each semester.
  - https://canvas.sydney.edu.au/courses/23380/pages/record+-practice-test-instructions
- **Read through the Taking Online Exams Canvas site** https://canvas.sydney.edu.au/courses/23380 in order to check your computer and internet meet technical requirements and to plan your space. Read the information about Type B (Record+) exams and there is a Help Centre page https://canvas.sydney.edu.au/courses/23380/pages/help-centre if you need extra support.
- **Keep the Taking Online Exams site on your Canvas dashboard for easy reference.** Just click 'Join this Course' on the homepage and follow the steps to enrol.
- If you have followed all the instructions and are still unable to take the practice test, please contact **canvas.tests@sydney.edu.au** for help.

Agenda

- *Focus of the Unit*
- Exam Assessment Arrangements
- Exam Assessment Contents and Structure
- Exam Assessment Advice

What is examinable?

- Everything from the lecture slides, labs, assessments
  - except when explicitly labeled as non-examinable
- If it happened during this unit, you can be expected to know about it!
- But, focus on the things we put most emphasis on, as seen in labs and assessments

ISYS2120 Learning outcomes (start)

- **LO1**. understand the concept of a DBMS, differences from other ways to store and share data, DBMS role in organisations, and the types of work done with a DBMS
- **LO2**. understand the relational data model: connect relational data to real world facts, and vice versa; know limitations and benefits of the relational model approach
- **LO3**. work with data stored in a relational database management system: understand table definitions including integrity constraints, extract information through SQL queries, modify information through SQL queries
- **LO4**. design a suitable schema which says how information about a particular domain will be stored in a relational DBMS: create a conceptual data model for a domain, produce relational schema (including integrity constraints) from a conceptual model, apply normalisation theory to evaluate or improve a relational schema

ISYS2120 Learning outcomes (rest)

- **LO5**. understand how application software can use data stored in a relational DBMS, and understand the basic architectural alternatives for data management applications
- **LO6**. understand goals, threats, and protection techniques, for ensuring data security and privacy, including use of SQL views, access control, integrity constraints, stored procedures
- **LO7**. understand some concepts of dbms implementation that impact on application quality and performance, including query processing, index structures, transactions
- **LO8**. connect general database concepts to both theoretical abstract formulations, and details of specific software platforms.
- **LO9**. work effectively in a team with members whose skills and interests differ

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Exam Period Assessment

- Online exam type B (invigilated by ProctorU Record+)
- scheduled by Exam Office
- run on special Canvas site “Final Exam for: ISYS2120”
    - It is **not** part of site for other work in ISYS2120

Warning: check Uni information

- The summary of “exam arrangements” found on the following slides, is based on my understanding, but the authority is whatever is on official University announcements
  - If there is any conflict, please check with the University (Student Centre etc)

When and “where”

- Scheduled by Exam Office, for a specific 2 hour period during Exam Weeks
  - Actually 2 hrs and 10 minutes, including 10 minutes of “reading time” during which writing is also allowed!
    - This time does NOT include the startup of ProctorU, checking your id, etc – that is all before you start the quiz
  - For students with special arrangements eg “Academic plan” or “clash” – in that case Exam Office will make longer time, other schedule etc
  - Check your timetable
- Done on special Canvas site called “Final Exam for: ISYS2120”
  - You will eventually see this among your list of course sites
- You must work on computer or laptop with satisfactory internet connectivity, not on phone
  - You can book a space in on-campus library if you wish to do it there
- Be prepared
  - Recommend to use Chrome or Mozilla browser
    - Install ProctorU browser extension
    - Set up by restarting machine, clearing cache etc
- Exam is worth 50% of final grade for the unit

On the day

- Follow all the instructions at https://canvas.sydney.edu.au/courses/23380/pages/on-the-day-of-your-record+-test-or-exam
  - Note especially: log out of Canvas on all other devices
  - Note especially: close all other windows, browser tabs etc

Start buffer

- You will be allowed a buffer time of 40 minutes in case you experience any technical issues starting your exam. This means that you have 40 minutes after the scheduled availability of the quiz in canvas, to begin the exam and still get the full time allowed to complete the exam. If you are unable to start your exam within the buffer time, you should apply for special consideration. *Buffer time does NOT mean you have extra time to complete your exam.* You must finish within 2 hrs and 10 minutes time from whenever you start the quiz.

“How”

- Structured as Canvas “quiz” (in Assignments tab), on the special Final Exam site
  - Start the quiz once ProctorU startup, id check etc are completed
  - The whole quiz is run under ProctorU invigilation
- Answer quiz questions online
  - some are MCQ [like weekly quiz questions],
  - others require typing the answer in a textbox

What is “Restricted Open Book”

- This exam is “restricted open book”. You are allowed to look at written or printed material (ie on paper). However, you must not consult any online material (not on your machine, nor on other device, nor from internet). You must produce your answers yourself.
- It would be a violation of academic integrity to ask someone else for an answer or explanation about any question, or to reveal the questions to anyone even after the exam is over.
- Do not use third-party communication or collaboration apps or websites. Access to these (even for social purposes) is strictly prohibited during your exam.
  - Do not have WhatsApp, Slack, WeChat, Discord, Twitter, Instagram, Facebook etc open on any of your devices

ProctorU

- Exam is invigilated by ProctorU, using software called Record+ or ProctorU Auto; this detects disturbing patterns in the recording, and passes some (many!) cases to University employees (human checkers)
  - If checkers agree the video shows misconduct, a formal university process is started, where another human considers the situation
- ProctorU requires quite a number of steps you need to do well before the exam happens!
- See https://canvas.sydney.edu.au/courses/23380/pages/introduction-to-record+?module_item_id=810418
  - Be sure to also work through the “What to do next” links there!

Issues during the exam?

- The unit coordinator or teachers are not allowed to communicate with you during the exam
- How to report technical problems with the quiz:
  - Email canvas.tests@sydney.edu.au before the end of submission period
  - Eg in some exams in past, images did not display in questions, or files did not download
- After the exam, you can email coordinator to describe issues with content etc

ProctorU support on the day of the exam

B

Type B exams (ProctorU Record+)

- Live chat within your student account.
  Click on the chat icon in the lower right corner of the screen

- Email ProctorU on support@proctoru.com
- Call ProctorU on 1800 957 152

Note: other units may do other exam type, so check separately for them!

Submit

- Do not push submit button at bottom of the quiz, until you are ready to finish work (or timer is about to expire)
  - Exam “quiz” is **single-attempt**
  - System should be saving whatever you typed in textboxes etc, as long as the internet connection is maintained
    - So do not worry if the timer ends before you did “submit” – the system will submit everything for you

Technical and logistical issues

- Final exam is quite time constrained
- Make sure you will have a good place to work (quiet for those 2+ hours, comfortable place for typing, reliable internet, no-one else in room, etc)
- If your internet connection drops out or your computer shuts down during a proctored online exam, you just need to log back in to ProctorU and select the Chat Now button at the bottom right hand side of your screen to reconnect.
- If you're unable to resolve your issue and it affects your ability to complete the exam, then you will need to get "special consideration" based on the technical difficulty (apply immediately you can, with "student declaration" as evidence)
- If something unexpected happens during the exam, such as getting interrupted by a housemate, don't worry, you won't be kicked out of the exam. Footage from your exam will be reviewed later to make sure that nothing happened that could have compromised academic integrity.

Academic integrity

- You must not get assistance from other people or use resources other than what is allowed
- You must not reveal the questions (neither during the exam, nor afterwards)

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Exam structure

- PartA: 20 multichoice questions, worth 1 points each [total: 20]
- PartB, PartC, PartD, PartE: extended response questions (answer by typing in a textbox) [total 80]
  - Details following

Part A

- Part A: 20 multichoice questions, 1 pt each, on specific facts or terminology
  - Similar to weekly quiz questions
  - Cover the range of unit material, especially based on lectures
- Marking
  - Correct answer: 1 point
  - Other answer: 0
    - No penalty for guessing, so answer every question even if you have no idea!

PartB

- 7 extended response questions, ranging from 3 to 5 points each; total 30 points
- At the start of the Part, you are given a relational schema (CREATE TABLE statements), that the questions will use
- Questions cover SQL, security, relational algebra
  - Eg: write SQL query to <calculate this >; write SQL query to <change the data state like this>; write SQL to deliver <these security goals>; give security goals that are provided by <SQL GRANT statements>; give English information request for which <this SQL or relational algebra> calculates the answer

PartC

- 4 extended response questions, ranging from 2 to 10 points, total 20 points.
- At the start of the Part, you are given an E-R diagram, that the questions will use
- Questions cover E-R notation, conversion to relational schema
  - Eg: explain in English meaning of <this part of diagram>; does the diagram allow <this situation> and explain what in diagram does/doesn't allow this; give CREATE TABLE statements to produce relations to store information that fits diagram

PartD

- 4 extended response questions, ranging from 2 to 7 points, total 15 points.
- At the start of the Part, you are given a relational schema (table name and column names) and functional dependencies, that the questions will use
- Questions cover relational design theory
  - Eg: calculate attribute closure; check whether in BCNF and explain why/why not; give lossless-join dependency-preserving decomposition and show why decomposition has those properties

PartE

- 2 extended response questions, total 15 points.
- Questions are about Asst3
  - Q36 [5pts] In the code you used as a skeleton for asst3 (and which had previously been used in lab for week 8), <describe how something is achieved, and evaluate appropriateness>
  - Q37 [10 points] Write an overview of <how one does this in producing a database-backed webapp>

Communication

- Some questions may ask you to write for a particular kind of reader
  - In that case, your answer should communicate well *for that kind of reader*: use relevant language, connect examples to the readers knowledge and interests, etc
  - Answer should be appropriate in style (not too informal, not bullet points) and well-structured

Marking approach

- Each student's answer to a question is assessed on one or more aspects
- For each aspect, awarded one of the following scores (no intermediate marks):
  - 100% (Excellent), 75% (Good), 50% (Satisfactory), 25% (Flawed), 0
  - Marker will follow guidelines of what to expect in answer at each level
- If the question asks for multiple things (eg "is index useful, explain, suggest improvement") then there will be a separate marking aspect for each of these; also communication quality may be a separate aspect (if the question specifies a kind of target reader)

For content issues during the exam

- Teaching staff are not allowed to communicate to students during the exam
- If any MCQ question seems wrong or confusing (typo etc): pick the best answer you can (afterwards, report it to us in private post on Ed)
- If any textbox question seems wrong or confusing: note this at start of your answer, say how you are interpreting the question, then answer based on that

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Revision advice I

- Practice on week 13 lab material
  - Only covers Parts B, C, D and E
  - Try to keep to time as indicated with each question
- For Part A, go back through weekly quizzes
- Also, look at lab activities and the lab demonstrators' slides
- Post on Ed with questions, clarification

Revision advice II

- Prepare hand-written summary notes
  - Evidence shows that (i) choosing what facts and examples you want to have in notes, and then (ii) writing it out by hand, is very beneficial for learning
- Once written out by hand, you may want to type up again and have a printed-out version (better for reading quickly, editing)
- Remember that time is scarce in the exam, so you need to be able to quickly find things in the notes
  - Organisation is vital

Exam answering technique

- Plan how you will allocate time (wisely)
  - There are 100 marks in 120 minutes (plus reading)
    - So a 10 point question can be given 12 minutes, including plan, write, revise
  - At the start, read through the whole exam, and get a sense of which questions you can do easily, and which may be more challenging
  - But answer them all! Avoid sinking more time than reasonable into challenging ones, UNTIL after everything has some ok answer!
- Answer everything (try to make sure you get at least to the "pass level mark" on every question)
  - Look carefully at the wording of the question
    - If it asks for "comparison" give both similarities and differences; if it asks for "advantages and disadvantages" give both; if it asks for example, be sure to give one
  - Even if you don't know the answer, show that you have *some relevant* knowledge and understanding
  - Don't worry about writing style for explanations, even bullet points are ok unless question explicitly asks for a particular type of reader
  - If you are uncertain about the intent of a question, answer as best you can, and also indicate how you are interpreting the question

How much to write?

- A 10 point question would be expected to take about 10-12 minutes to answer
  - Including thinking, typing, checking, revising
- A good answer can often be done in two or three focused paragraphs
  - For a 5 point question asking for explanation, a short paragraph is often enough
- You need to show the marker that you know and understand the concepts
  - And you ought to answer the specific question that is asked
    - Watch the instructions carefully

Exam answering technique

These are just suggestions – do what works best for YOU!

- My suggestion is to quickly do Part A
  - no more than 1 minute per question, hopefully less if you know the answer directly; if you don't know, or if none of the choices look like what you want, then consider each choice and try to rule it out; as soon as the time is up, just guess as best you can among possible answers
- Then I recommend you type in an answer for every question in other parts, using a bit less less than 1 minute per point (say, 4 minutes for 5 mark question

Exam answering technique

These are just suggestions – do what works best for YOU!

- Do some basic sanity-checks on your answers
  - Eg for SQL query, make sure the FROM clause mentions all tables needed to contain the columns mentioned in SELECT and WHERE
  - Eg for converting ER to relational, check that every entity and relationship set has information somewhere in your tables
  - Make sure your answer covers every aspect asked in the question (eg if it says “give an explanation” or “”give advantages and disadvantages”…)

Exam answering technique

These are just suggestions – do what works best for YOU!

- After all questions have some answer, aim to check/improve each answer (say, another 2 minutes for 5 mark question)
  - You could check some by looking up the appropriate material eg in hand-written notes, or printed-out lecture slides or lab instructions
  - If you can't find the relevant place in the material within the time for this question, just move on to other questions
  - Revise your answers as appropriate
  - Maybe add more explanation
- If you still have time left at the end (eg because some questions went quicker), use it to improve answers on the questions you found harder

Illness or misadventure

- If you are unwell, and it seems that you won't be able to demonstrate your knowledge/skill properly, then you can **request special consideration**
  - Similar process if technical problems occur during an assessment
- Follow the same procedure as during semester
  - for sickness: try to get medical person to fill out special USyd form, scan and attach when you fill in the online form, within 3 days; if this isn't feasible (eg tech difficulties, lockdown), you can make student declaration of what happened
- Usual outcome: an alternate test, in replacement exam period
- The University goal is to get a fair assessment of what you have achieved

General advice

- Be prepared
  - Mentally
  - Knowledge
  - Technical aspects (especially, practice with ProctorU!)
  - Physical environment (quiet, private, comfortable)
- Have your id ready
- Be well-rested, and reasonably fed (but not over-full)
- Have plenty of water (in a *clear* bottle or glass)
- Relax

Good luck!