

1 Introduction

In this module we are going to use the online system *PeerWise* to encourage what is known as “deep learning”¹ into some of the topics raised in this module. As lecturers we are fully aware that “you don’t really know a topic until you teach it.” So the purpose of the PeerWise system is for you to teach each other, by writing a number of multiple-choice questions on CS2003 topics, and answering questions written by your fellow classmates. By the end of the module, you will have collectively created a large bank of questions that should prove useful for revision.

Requirements

Each week, in addition to the tutorial questions, you are to create and answer at least one multiple-choice question (MCQ) on PeerWise about that week’s tutorial material. During tutorials, your tutor will pick a question and discuss it.

PeerWise

PeerWise is a web-based system for designing and answering MCQs developed at the University of Auckland. It is widely used at over 1,500 education institutions around the world; you may be interested in reading this short paper describing its effectiveness in computer science education [1].

The MCQs that you create in PeerWise will be visible and answerable by all of the other students on this module. By creating and answering each other’s questions, you will hopefully develop a deeper understanding of the module’s topics.

Registering for the system

Start by visiting PeerWise at https://peerwise.cs.auckland.ac.nz/at/?st-andrews_uk

¹Somewhat confusingly, this is not deep learning in the machine learning context, but here we mean learning that enables a deeper understanding of material.

First click the “Registration” link and follow the prompts. You will be asked to choose a username and a password for your PeerWise account. To maintain some level of anonymity, you are encouraged to use a randomly-generated username (e.g. a random string comprising numbers and letters). You might wish to write a program to generate such a username, or to use a website such as <https://www.random.org/strings/>

Once you have registered, you need to join the course “CS2003 (2020-21 Semester 1)”. To do this you should visit <https://peerwise.cs.auckland.ac.nz/home/index.php?cmd=joinCourse> and you will need to enter two pieces of information:

1. Course ID = 21918
2. Identifier = Please enter your identifier for this course. You can find your identifier by looking for your matriculation number in the table at the end of this document. Note that this identifier is only used for creating the account; after registering with the identifier you then use your own username for PeerWise.

Designing questions

You can create MCQs by clicking on “Your questions” and then the “Create new question” button. PeerWise will ask you for the question text, up to five potential answers, to select the correct answer, and then an explanation for why the correct answer is correct. You should also “tag” your question with the relevant week number (e.g. “week-1”).

What makes a good question? A good MCQ should make someone test factual knowledge, make connections between the concepts raised in the module, or think of new solutions to problems. A low quality MCQ will have an obvious answer, one that can be found by quickly skimming a paper or article, or wrong answers that are obviously wrong and therefore easy to dismiss. Ideally you will have some “plausible distractor” or “red herring” answers that are tricky to work through but ultimately incorrect. A good question will have just **one** correct answer (with justification for why this is correct) and at least **three** incorrect answers (with justification for why each of these is incorrect).

What makes a good answer? You could discuss why you thought the question was appropriate, explain exactly why the correct answer is correct, and/or explain why all of the other answers are incorrect. The more detail you provide, the more useful your question will be for learning and for revision.

Answering and commenting on questions

PeerWise incorporates many features that you may have encountered on social media websites or other Internet forums. You can comment on MCQs, and give them ratings. These will add to your PeerWise “reputation”. PeerWise is not assessed, but you may wish to accrue reputation regardless!

To help your peers improve their MCQs and to help when they are used for revision, you can provide comments once you have answered the MCQs. You may wish to comment on the difficulty of the MCQ, the accuracy of the answers, or the appropriateness of any red herrings. You may also reply to each other’s comments to clarify questions or to help improve your MCQs.

Please be polite and respectful. Constructive comments are strongly preferred over insults or “trolling”. We will monitor the course site on a semi-regular basis,² but please let us know immediately if you spot anything inappropriate.

Ownership

Tristan says: I have used PeerWise for teaching for many years. One common complaint from students is “Oh you are just too lazy to do any work and you are asking students to create exam questions for you!” This is not the case. I first came across PeerWise when I went back to university to study for a degree as a mature student. It was perhaps the most useful tool that I found throughout the whole course. Designing my own MCQs meant that I had to revise and truly understand the material. My classmates also found it useful, although we all had a good moan about it as it is quite hard work!

I truly believe that PeerWise is a great way to learn. It gives you control over your learning and will be a great help when it comes to revision. To demonstrate that it is not about you doing our work for us, I will delete all of the questions on the CS2003 PeerWise board at the end of this academic year (this allows anyone time to use it for resits). No questions will be reused for exams or for any other purposes. If you have any other queries about this, then please get in touch by e-mail.

References

- [1] P. Denny, J. Hamer, A. Luxton-Reilly, and H. Purchase. PeerWise: students sharing their multiple choice questions. In *Proceedings of the Fourth International Workshop on Computing Education Research (ICER '08)*, pages 51–58, Sydney, Australia, 2008. doi:10.1145/1404520.1404526.

²Note that we will not be moderating content or correcting errors: see https://peerwise.cs.auckland.ac.nz/docs/community/moderate_monitor_or_leave/

Identifiers

Please find your matriculation number in the table below and register for PeerWise using the respective identifier. If your matriculation number is not listed, if you find that the identifier has already been used, or if you have any other trouble registering for PeerWise, please get in touch with cs2003.lec@cs-st.andrews.ac.uk immediately.

Matriculation ID	PeerWise Identifier
150000946	3574780021
180001338	7699475046
180006827	3815347322
180014221	5470150819
180016732	8828671218
180017975	6937243697
180021877	6301193069
180030995	1925889337
190000735	7200165341
190001593	9123747702
190001670	9449234189
190001704	1515048885
190002071	0285963436
190002809	4839288188
190003270	3263616709
190004065	1577940061
190004593	2347749293
190005057	3677756125
190005092	0674465360
190005624	2405066732
190006203	4156822446
190006961	5036813875
190007075	9219631718
190007422	5529836284
190007562	8129967953
190008026	9080782537
190009056	2779967301
190009823	2107718324
190009838	2890613867
190010714	5943334901
190010906	7011479213

190011177	4516705327
190011856	3436451857
190012003	9448324827
190012580	5504590841
190013089	6881502711
190013199	4466048099
190013499	3646226896
190014253	2111195855
190014279	4821346529
190014412	1080186316
190014492	6293355095
190014524	1092414102
190014686	5677324818
190014982	6769656201
190015047	7484579377
190015339	0292501536
190015506	1827121452
190015715	4274027712
190016045	7047305839
190016162	5577301367
190016280	9041987039
190016412	7380294599
190017283	2687796613
190017808	2696024892
190017829	2870503024
190018018	6448520677
190018889	1207844309
190019931	8053611549
190020048	0060062373
190020523	3098912883
190020857	6370041947
190022647	3469926928
190022658	8494015300
190026660	7261307451
190027503	3430804775
190028289	8868964697
200000299	2452765617
200002334	4837326118
200007779	5880439779
200007892	8715690980

200011254	0910809650
200012696	2426552254
200013403	2118132854
200018055	8208552765
200030688	6391349255