COMP90057 Advanced Theoretical Computer Science
Assignment 1 (10%) Second Semester 2017

Due: Friday 8 September 2017 [9.00am]
(Available on LMS: Wednesday 16 August 2017)

Your submissions for this assignment must be your own individual work. There is further advice about this below.
You should expect to spend at least 10 hours on the assignment.

Your task is to prepare material for a 5-7 minute presentation that is suitable for delivery to the COMP90057 class *(but regrettably you are not going to have the opportunity to deliver it).*

The idea is to develop a presentation of a topic that builds on what has been learned in the subject, and is relevant to the study of computability. Your topic is to be one of the following.

(i) The Busy Beaver Game: one possible starting point `https://www.youtube.com/watch?v=CE8UhcyJS0I`

(ii) Clockwise Turing machines: one possible starting point `www.ini.uzh.ch/~tneary/NUIM-CS-TR-2005-12.pdf`

(iii) Minsky machines: one possible starting point is `https://esolangs.org/wiki/Minsky_machine`

(iv) Complexity of universal Turing machines: one possible starting point `http://arxiv.org/abs/1110.2230`

(v) Alan Turing's contributions within the codebreaking efforts in World War 2: one possible starting point is *Chapter 2 of "the theory that would not die", by s. b. mcgrayne* - ebook *available via the Library*

(vi) The Turing Test and Eugene Goostman: one possible starting point `https://en.wikipedia.org/wiki/Turing_test`

(vii) You are invited to propose another topic that builds on what has been learned in the subject, and is relevant to the study of computability. If you have an alternative topic that you would prefer to use for this assignment, send me a request by email - including a description of the topic (no more than 30 words), and a sample starting reference. For this to be considered it should be sent no later than 9am Friday 25th August. I will respond with approval (or not) by 5pm Monday 28th August. To ensure your email is not caught in a spam filter, it should be sent from your University account

Your submission is to be a *single* PDF file that incorporates a *maximum* of eight display slides, plus a narrative 'script' that goes with the slides. The final slide is to be a reference list and needs no commentary. The other slides **each** require a commentary of between 100 and 200 words. Note that a six minute speech is around 800 words! Your reference list would typically include 3-6 items, of which at least one should be an article published in an academic journal. Further details on submission are below.

Marking scheme

The submission will be marked according to the following scheme, and will be processed with Turnitin `http://academicintegrity.unimelb.edu.au/#turnitin` before being marked.

	Excellent	Satisfactory	Inadequate
Overall content (4 marks)		Material is relevant to the subject COMP90057 and includes reasonable coverage of key supporting concepts to fit to the expected knowledge and interests of the intended audience. Student demonstrates ability to synthesise information from multiple sources, including academic sources.	
Slides (3 marks)		A reasonable mix of images and text in the slides so the slides attract interest and are not too dense with information.	
Commentary (3 marks)	Organisation is logical, with a clear sequence of ideas. Technical terms are used correctly. Supporting information provided where appropriate.		Organisation is disconnected from the material in the slides. Information is provided indiscriminantly.

Submissions

Submit your answers to this assignment on the LMS. Your file must be in .pdf format. You are expected to *test* for yourself that the document you submit can be printed!

You may submit *multiple* versions of your assignment. Your final *on-time* submission will be the one that is assessed for the purpose of determining a mark. However, for the purpose of ensuring academic honesty, any material that is submitted, regardless of when it was submitted, or whether further or previous submissions were made, may be inspected and will be regarded as an attempt to submit that material for assessment.

You should generate the file using 'standard' office applications - ie a scanned handwritten assignment is <u>not</u> acceptable.

Administrative matters

When is late? What do I do if I am late?   The due date and time are printed on the front of this document. The lateness policy for this assignment, subject to CIS Department policies, is that ten percent of the available marks for this assignment are lost for each day (or part thereof) that the submission is late.

Should you wish to make a late submission, you must send an email directly to Liz Sonenberg no later than 24 hours before the due date and time and you will be provided with instructions for making a late submission.

Should you experience circumstances affecting your study, as soon as possible: both consult the University's Special Consideration Procedure (MPF1297) and Extensions Procedure (MPF1029), *and* let the lecturers know that you are experiencing such circumstances.

See `http://ask.unimelb.edu.au/app/answers/detail/a_id/5667/~/applying-for-an-extension` for pointers to policy and processes for assignment extensions and for Special Consideration.

What are the marks?   Recall that this assignment is worth 10% of your final score. There is also a hurdle requirement: to pass this subject, you must earn at least 15 marks out of a subtotal of 30 available for the assignments and week 5 quiz.

Individual work   You are reminded that your submission for this assignment is to be your own individual work. Where there is suspicion of plagiarism or collusion, the University policy and procedures for responding to academic misconduct will apply. The LMS submission process requires you to make a statement regarding academic honesty.

Finally   *We are here to help!* Frequently asked questions about the assignment will be answered in the LMS discussion group. For confidential questions, please contact Liz directly, or speak with Les or Xin.

LizS AUGUST 15, 2017