

# COMP3520 Operating Systems Internals

## Assignment 1 – Discussion Document

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### General Instructions

For the discussion document, all questions are compulsory. You **must** make a genuine attempt at questions. An attempt at a question is considered genuine **if and only if** it is honest **and** serious.

You must attempt this part of the assignment individually. You will be required to submit your work to *Turnitin* for similarity checking as part of assignment submission.

**You must cite and reference all copied or paraphrased material that are not your own.** Any suitable referencing scheme may be used. Where practical, you should use your own words.

You may use diagrams to support your written answers.

Please label your answers with the correct question numbers but do not repeat the question.

Submit your discussion document to the appropriate submission inbox in the COMP3520 Canvas website.

The discussion document is worth 20 % of full marks for Assignment 1. Marking criteria are included in a separate document.

You may use a total number of 2-3 pages, but no more than 5 pages for all your answers to these questions.

## Questions

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In your answers, you will be assessed on how well you:

- Demonstrate understanding of relevant operating systems concepts that is appropriate to the question; and
  - Present logical responses using operating systems internals terminology appropriately.
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### Question 1 (10 points)

In English and pseudocode, describe and justify the methods that you have used to deal with the synchronization issues of customer-assistant-barber coordination in the Stylish Hairdressing Salon problem. Your answer should cover how a customer is called by the shop assistant, how a customer is assigned to a specific barber, how the customer is told the completion of hairdressing by the barber, and how all the barbers are told by the assistant that the work has been finished for the day.

### Question 2 (10 points)

Discuss in depth how you analysed and tested your methods and program to make sure that your program produces the correct output and has no bugs. You must discuss how you set the input parameters to test the correctness of your program for various scenarios that may occur in the salon. If your program is unable to meet the requirements of the assignment, please discuss the potential problems in your methods and program and possible ways to solve these problems.