**CS2106 Introduction to Operating Systems**

**Lab 1 - Leveling Up on C**

**Answer Book**

Please read the instructions in the main lab sheet before completing this document. Submission deadline is **Sunday 11 February 2024, 1 pm (1300 hrs)**.

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Section 1.

**Question 1.1 (1 mark)**

stdio.h is enclosed in angle brackets as it is a named header,  
and queue.h is enclosed in quotes as it is from a source file in the  
same directory.

**Question 1.2 (1 mark)**

The static declaration in the context of variable declaration means that its  
value remains in memory while the program is running, and sets the lifespan of the  
variable to the scope of the containing file.

**Question 1.3 (1 mark)**

The error is caused by the enq() and deq() methods lacking a  
function prototype, so the compiler does not know that the functions  
are declared. Furthermore, the compiler does not support implicit  
function declarations, as seen in the error log.

**Question 1.4 (1 mark)**

void enq(double);

double deq();

Section 2

**Question 2.1 (1 mark)**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Global / Local** | **Address** |
| p1 |  |  |
| p2 |  |  |
| p3 |  |  |
| p4 |  |  |
| w |  |  |
| x |  |  |
| y |  |  |
| z |  |  |

**Question 2.2 (1 mark)**

|  |  |
| --- | --- |
| **Variable** | **Location (S, D, T or H)** |
| p1 |  |
| p2 |  |
| p3 |  |
| p4 |  |
| w |  |
| x |  |
| y |  |
| z |  |

How I inferred these answers from Q2.1:

<Your answer here>

**Question 2.3 (1 mark)**

<Your answer here>

**Question 2.4 (1 mark)**

<Your answer here>

**Question 2.5 (1 mark)**

<Your answer here>

Section 3

**Question 3.1 (1 mark)**

<Your answer here>

**Question 3.2 (1 mark)**

<Your answer here>

**Question 3.3 (1 mark)**

<Your answer here>

Section 4

**Question 4.1 (1 mark)**

<Your answer here>

**Question 4.2 (1 mark)**

<Your answer here>

**TOTAL: \_\_\_\_\_\_\_\_\_\_\_ / 14**