

Term 2 _ Practical 3 [30 marks]

Final Mark

This practical will have 2 questions. You will be required to work with threads in C using the Pthread library. This practical is intended to give students a platform where they can learn how to implement process synchronization using Mutexes.

Use the online compiler https://www.tutorialspoint.com/compile_c_online.php

Submit your answers on Ikamva. Follow the instructions on each question on how to upload.

Student No.	Name	Surname

Exercise 1

Mark	Take time to go through the codes for thread1.txt and thread2.txt embedded below.
10	Make sure that you understand how every line in these codes works. Compile and run the two codes. Compare and contrast the generated outputs. Give sufficient reasons for the observed outputs. (10 Marks)
	Write your answer in Ikamva in the text field provided.



thread2.txt



thread1.txt

Exercise 2 – p1.c

Mark
20

Write a C program using threads and mutexes, whereby `incr()` is used to increment a shared float variable, `decr()` is used to decrement shared variable, `double()` is used to double the shared variable, and `halve()` is used to halve the shared variable. Use mutex locks at appropriate places so as to synchronize the four threads. Initialize float variable to 64.0 in the beginning.

Save your code as `p1.c` and zip it. Upload it in Ikamva.