

The University of the South Pacific

School of Computing, Information & Mathematical Sciences

CS112 Data Structures and Algorithms

Tutorial Week 10

This tutorial is based on your previous tutorials where you used an array of students to store marks, IDs and grades. In this tutorial, you are required to use a linked list of students instead of an array. At this stage, you are just required to use the given functions for linked list operations instead of learning what happens inside the functions. Your tutors will briefly explain these functions.

Question 1.

Download, read and run the sample linked list program from *week10 Tutorial* folder that stores and prints integer data. Use the same file to do the following:

- i. Create a struct for the student so that it can encapsulate marks, id and grades. (test it!)
- ii. Comment out all the code inside the main().
- iii. Modify the NODE struct to store student data instead of integer data. (pointer to student object would be more appropriate than student object.)
- iv. Create a linked list using the modified NODE to store ids, and marks from standard input.
- v. Modify the existing loop to print student IDs and marks.

Question 2. (homework)

- vi. Download *student.txt* file from *week10 Tutorial* folder
- vii. Read data from the file instead of user input.
- viii. The above program doesn't determine the grade. Determine grades using your knowledge from previous labs and print grades together with IDs and marks.