CPT113 – Programming Methodology & Data Structures
Tutorial Week 14
Recap 2

Learning Outcomes:
- Reviewing pointers, templates, exceptions and queue topics.

1- Write a program that dynamically allocates memory for a 2D array, assigns values to the array from 1 increasingly, displaying the array in 2D format and then frees the memory.

2- Write a function template to add two values with an optional third value. It means that the user can pass either 2 or 3 values to the function template. Then test your function in a program.

3- Write a temperature convertor program that receive the temperature from user. Then ask user if the temperature should be converted to Celsius or Fahrenheit. Based on the user input functions FtoC or CtoF is called, and the conversion is done. Try/catch block should be used for input validation and also let the user continue in the case of any error occurrence.

4- Write the class queue using an array which includes the member functions isFull, isEmpty, enqueue, dequeue, and display as well is constructor and destructor. Then write a main function to test your answer.