Programming – TU856/1 & TU858/1

Lab 6 – Tuesday, November 15th, 2022

Note: You are expected to finish all programmes in your own time if you do not get these done during the lab session. This is your own responsibility.

Arrays (part 1)

Remember: Use Symbolic names in your programs. Do not hard code.

Write separate programs to:

1. Write a program that uses an array to enter 5 integer numbers. Copy the contents of this array into another array (using only a loop !!).

2. Write a program using an array that will allow the user to input 3 temperature readings in Fahrenheit. After all the temperatures have been read from the keyboard, display each of these temperatures on the screen **and** its corresponding temperature in Celsius.

   Use the following formula to convert from Fahrenheit to Celsius:

   Celsius = (Fahrenheit - 32.0) * (5.0 / 9.0)

3. Define an integer array with 4 elements. Write a program that will allow the user to enter 4 numbers into this array and do the following:
   - Display the contents of the array to the screen in the same order they were entered.
   - Swap the 1st and 2nd numbers in the array and swap the 3rd and 4th numbers in the array. Now display the numbers on the screen using this new order.

4. Write a program that defines an integer array with 5 elements. Your program must do the following:
   - Enter the 5 integer values into the array
   - Define another integer array with 5 elements and copy the values from the 1st array into the second array in **reverse order** (e.g., the number in the first element of the 1st array will be in the last element in the 2nd array, etc..).

5. Write a program that uses a char array with 5 elements. Enter any 5 characters of your choice into the array. Output the contents of the array to the screen and display each character.

Note: What happens if you enter the 'Spacebar' and 'Enter' key as characters using %c as the delimiter in your scanf() ? Notice anything strange? They are valid characters.

6. Write a program to enter numbers into an integer array with 3 elements, i.e., the size of the array is 3. Your program must sort the array in ascending order (i.e., the first element is the smallest and each element after the first is greater than or equal to the element before it).

NB: Use comments, white-space and indent your code.