ID1063 Final Lab Exam
AI, BM

Time: 3 hours

Total Marks: 5+10+10=25

1. Write a program to accept a positive integer n, left-rotate it and print the left-rotated number. For example, if $n = 1357$, the output is 3571.

2. Implement a generic interleave function called interleave with the following signature: void interleave(void* output_arr, void* input_arr1, void* input_arr2, size_t arr1_size, size_t arr2_size, size_t elem_size) that creates an output_arr of size arr1_size+arr2_size with the values interleaved as input_arr1[0],input_arr2[0], input_arr1[1], input_arr2[1]... Test your function with two integer arrays as input; for example, if the first array has elements 1,2,3,4 and the second array has elements 5,6,7, then the output array should have elements 1,5,2,6,3,7,4.

3. In Morse code, each letter of the English alphabet (and some common symbols), is represented by a series of dots and dashes. The file morseTable.txt contains this mapping. Further, letters are separated by spaces, and words by /. For example, the Morse code of "Hello, world." is .... . .-.. .-.. — –..– / .– — .-. .-.. -.. .-.-.-

   Write a program that accepts a string and converts it to Morse code. You may assume that the string can contain any character for which the mapping is given in the file.