**Assignment 6 (due date: 12/17/2022)**

In this assignment you are asked to do coding in C using pointers, structures, and bitwise operators (Chapter 10).

Please submit your assignment into Canvas as .c files or copy them all into a single word (.doc or .docx) file but make sure that they are ready to be compiled. Please DO NOT submit pdf.

Q1: Write code to accomplish each of the following:

1. Define a structure called *part* containing unsigned int variable *partNumber* and char array *partName* with values that may be as long as 25 characters (including the terminating null character).
2. Define *Part* to be a synonym for the type struct part.
3. Use *Part* to declare variable *a* to be of type struct part, array *b[10]* to be of type struct part and variable *ptr* to be of type pointer to struct part.
4. Read a part number and a part name from the keyboard into the individual members of variable *a*.

e) Assign the member values of variable a to element 3 of array *b*.

f) Assign the address of array *b* to the pointer variable *ptr*.

g) Print the member values of element 3 of array *b* using the variable *ptr* and the structure pointer operator to refer to the members.

Q2: (Reversing the Order of an Integer’s Bits) Write a program that reverses the order of the bits in an unsigned int value. The program should input the value from the user and call function *reverseBits* to print the bits in reverse order. Print the value in bits both before and after the bits are reversed to confirm that the bits are reversed properly.