Assignment 1

Assignments are to be completed individually (not as a group work).

getchar(), putchar(), functions, base conversion

On this assignment you are asked to use the character input/output operations `getchar()`, `putchar()` rather than formatted input output (please do not use `scanf`, `printf`).

1. Exercise 1 (display a prompt using putchar())

Write a function that accepts a character array of length n and prints all n characters from this array to the console. Then use this function in a program that prints the Hello World message.

2. Exercise 2 (print an int using putchar())

Write a function that accepts an unsigned integer and prints this value one character at a time to the console. Then use this function in a program to print 2263.

3. Exercise 3 (base conversion)

Write a function that accepts a character array containing n characters '0' and '1' representing an unsigned binary number and returns an integer value (i.e. decimal) equivalent to the binary value represented by zeros and ones in the input array. Use this function in a program that:

a. Displays a prompt (use the function from Exercise 1),
b. Reads characters from the console (using `getchar()`) representing the binary number to be converted to decimal (assume maximum of 32 bits, no spaces, terminated by the `\n` character),
c. Performs base conversion (use the function prepared for this exercise),
d. Prints the decimal equivalent of the binary number entered (use the function from Exercise 2).

Reminder: use only the `getchar()`, `putchar()` functions for input/output. Include minimal comments in your programs (use Section 11.4 and the programming examples in the textbook as a guide). Your submission should be done in a single PDF file and should include: a heading for each exercise, the source code of each complete program and the screenshots of the terminal window showing couple of test runs for each exercise. Please number all pages! Submit this **SINGLE** pdf file on D2L as the Assignment 1 by the due date indicated in the D2L dropbox.