Homework 7

Files to submit: **bin_str.c**
Time it took Matthew to Complete**: 10 mins**

- All programs must compile without warnings when using the -Wall and -Werror options
- Submit only the files requested
    ◦ Do **NOT** submit folders or compressed files such as .zip, .rar, .tar, .targz, etc
- Your program must match the output exactly to receive credit.
    ◦ Make sure that all prompts and output match mine exactly.
    ◦ Easiest way to do this is to copy and paste them
- All input will be valid unless stated otherwise
- Print all real numbers to two decimal places unless otherwise stated
- The examples provided in the prompts do not represent all possible input you can receive.
- All inputs in the examples in the prompt are underlined
    ◦ You don't have to make anything underlined it is just there to help you differentiate between what you are supposed to print and what is being given to your program
- If you have questions please post them on Piazza

Restrictions
- No global variables are allowed
- Your main function may only declare variables, call other functions, and assign variables values.
- **You must solve this problem recursively**

1. Write a program called **bin_str.c** that completes a binary number. A binary number is made up of 0's and 1's but the input strings you will receive can also contain x's. An x represents a digit that can be either a 0 or a 1. Your program should display all the possible binary digits that can be formed. For example the string x1x0 could represent either 0100, 0110, 1100, or 1110.
    1. Your program should accept the binary string as a command line argument
    2. You MUST solve this program RECURISIVELY

Examples
```
1. ./bin_str.out   0110
   0110
2. ./bin_str.out   01x0
   0100
   0110
3. ./bin_str.out   xx
   00
   01
   10
   11
4. ./bin_str.out   101x100x11x
   10101000110
   10101000111
   10101001110
   10101001111
   10111000110
   10111000111
   10111001110
   10111001111
```