CIS*2500 Lab Assignment 2

1. Create function `double rand_double(double a, double b)` that produces a random number between a and b inclusive
    - The formula is: `((double) rand() / (double) MAX_INT) * (b - a) + a` assuming `b > a`
    - If `b < a` swap the values of a and b then call the above formula
    - You need to `#include <stdlib.h>` to use the `rand` function

2. Create a structure `foobarbaz` that holds an `int` called `foo`
   and a `double` called `bar` and a second int called `baz`

3. Create a function with no arguments called `rand_foobarbaz()`
   that produces a `foobarbaz` struct using dynamic memory
    - `foo` is initialized to a random value between 0 and 49,
    - `bar` is initialized to a random value between 0.0 and 100.0
    - `baz` is initialized to a random value between 50 and 99
    - `rand_foobarbaz()` should return the pointer to this struct

4. Create a function with no arguments called `many_foobarbaz()`
    - This function should produce an array of 20 `foobarbaz` structures using dynamic memory, and return it as a pointer.

5. Create a function that takes an array of `foobarbaz` struct pointers
   and prints them out, one structure per line
    - Make sure it is appropriately formatted
      so that the `foo`, `bar` and `baz` values line up vertically

6. Create a function that takes a `foobarbaz` array and two integers, where each integer is less than the number of `foobarbaz` structures in the array, and swaps the two structures being pointed at

7. Create a `main()` that performs the following:
    - Creates a `foobarbaz` array
    - Prints the `foobarbaz` array
    - Randomly creates two swap points
    - Prints them on their own line with blank lines above and below
    - Swaps the `foobarbaz` values at the two indices in the `foobarbaz` array
    - Prints out the `foobarbaz` array again

    Make sure you free all malloced memory before exiting the program.