Week 2

Monday, February 1, 2021 16:37

Recitation#2: C basics

CS232 Spring 2021

When: February 5 at 2:00 pm

1. Please review mixer_fun.c and complete the exercise more_mixer_fun.c
2. Please complete Exercises for 1.4 Functions & Exercises for 1.5: Arrays and Strings 1.5.1

https://github.com/jyuan2pace/CS232S21/tree/main/demo/week2

Exercises for 1.4 Functions

1. Implement and test a power function (for positive integer exponents only). A call to your function should compute $base^{exp}$ and might look like:

```
result = power(base, exp);
```

Exercises for 1.5: Arrays and Strings

1. Copy the following program that contains an example of two different functions with array parameters: array parameters example.
   a. Try compiling and running it to understand what it is

```
/* Copyright (c) 2020, Dive into Systems, LLC (https://diveintosystems
 */
#include <stdio.h>
/* function prototypes: */
```

s.org/)

a. Try compiling and running it to understand what it is doing.
b. Then complete the implementation of the `minimum` function and test it out.

2. Write a new program, that implements your own version o a string copy function that takes a destination and a sourc string and copies the source string to the destination string. Test it out in `main` by making calls to your string copy function with different string inputs and printing out the string copy results after each call.

%hhu - unsigned

%hhi - twos complement

main - first thing to be run by compiler

```
/* function prototypes. */
void printArray(int a[], int size);
int minimum(int a[], int size);
int main() {
    // this is a way to statically initialize an array
    // (something that is only occasionally useful):
    int data[10] = {5, 8, 9, 1, 10, 12, 4, 3, 7, 13};
    int opposite[10];
    int min, i;
for(i = 0; i < 10; i++) {
        opposite[i] = -(data[i]);
    }
    printArray(data, 10);
    min = minimum(data, 10);
    printf("Smallest value in data is: %d\n", min);
printArray(opposite, 10);
    min = minimum(opposite, 10);
    printf("Smallest value in opposite is: %d\n", min);
return 0;
}
/* prints out the contents of an array
 *  a: the array of int values
 *  size: the number of elements in the array
 */
void printArray(int a[], int size) {
    // An example of a function that doesn't return a value.
    int i;
printf("Array Contents:\n");
    for (i = 0; i < size; i++) {
        printf("%d ", a[i]);
    }
    printf("\n");
}
/* finds the smallest element in the passed array
 *  a: the array of int values
 *  size: the number of elements in the array
 *  returns: the smallest value in the array
 */
int minimum(int a[], int size) {
    int low;
    //TODO: write this function
```

- Converts source code to object code

```
    //TODO: Write this function
return low;
}
```