CSC 373 Computer Systems 1 Winter 2020
Prof. Lytinen
Homework assignment 1
Due as specified on D2L

Each problem below is worth 2 points, for a total of 10 points. Please see the file **hw1_main.c** for sample calls to each function. Note that I may test your code on other examples, so you should thoroughly test the functions that you write, beyond those provided in **hw1_main.**

1. Write 2 functions, called **scan_ints** and **print_ints**. Here are prototypes for each:

```
void scan_ints(int *x, int *y);  // why are pointers required?
void print_ints(int x, int y);   // why are pointers not required?
```

2. Write a function called **pow_xy. The function** should be passed 2 parameters, as illustrated in the prototype below.

```
int pow_xy(int *xptr, int y);
```

   Assuming that xptr contains the address of variable x, **pow_xy** should compute x to the y power, and store the result as the new value of x. The function should also **return** the result.

3. Write a function called **convert_temp**. The prototype for this function is:

```
void convert_temp(int deg, char scale, int *dptr, char *sptr);
```

   The function should convert a temperature from Fahrenheit to Celsius or vice versa, depending on the value of the parameter **scale**. You may assume that the function is called with scale = 'F' or scale = 'C' (Fahrenheit or Celsius).

4. Write a function called **init_array**. It is passed 3 parameters, as specified in the prototype below:

```
int init_array(int array[ ], int len, int start_value);
```

   The i^{th} item in **array** should be initialized to the value **start_value * i**. Also, the function should return the sum of the values in **array** after initialization.

5. Write a function called **reverse_numbers**. The function is passed an array of ints (and of course its length as a 2^{nd} parameter). The function should reverse the ordering of the numbers in the array. Here is its prototype. You may assume that len >= 0. Note the return type of void.

```
void reverse_numbers(int nums[], int len);
```