ECE 175: Computer Programming for Engineering Applications

Wednesday

Lab Assignment #5

Problem 1: Develop a C program that declares a `double x`, an `int y`, and a `float z`. Declare three pointers that point to each of the three variables.

a) Initialize x, y, z to values 1.0, 2, and 3.0, respectively.
b) Declare three pointers p_x, p_y, and p_z and make them point to x, y, and z respectively
c) Print the values of x, y, z and x+y+z **using pointer notation.**

Problem 2: Develop a C program that swaps the values of two floats. Your program should:

a) Ask the user to enter two real numbers, which are stored in a, b.
b) Call a function named swap that swaps the values of a and b. This function has the following prototype

```
void swap(float *p_a, float *p_b)
```

Sample Output:

Input: Enter a and b: 12.84 34.2
Output: a = 34.20, b = 12.84

Problem 3: Develop a C program that processes a file called "grades.txt" containing a list of student grades and outputs the minimum, maximum, and average grade contained within that file. Your program should make use the following function prototype:

```
void grades(FILE *inp, int *p_min, int *p_max, float *p_ave)
```

Sample Output:

Input File: 2 3 9 10 15 17 25 30 40 45 78 81 90

Output: Min: 2, Max: 90, Ave: 34.23