Principles of Programming

## Midterm Quiz - SEC2

1) Write a function called my\_scanf(char format[] , int ints[] , float floats[] , char str[][]);

(25pts)

* printf() and scanf() not allowed
* math.h allowed
* string.h allowed

int ints[1000];

float floats[1000];

char str[1000][100];

my\_scanf(“Hello %d %f %s” , ints , floats , str);

// if the user enter something like “Hello 12 55.7 World”

// ints[0] = 12;

// floats[0] = 55.7;

// str[0] = “World”;

2)Develop the void big\_add(char \*number1 , char \*number2 , char \*result)

which able to process its to parameter which could be a natural number up to 100 digits in the form of strings and put their result into the third array called result. (25pts)

Example :

>> Input 1 : 1,111,111,111,000,000,000

>>input 2 : 2,222,222,222,000,000,000

Output : 3,333,333,333e9

Example 2 :

>>Input 1 : -1,111,111,111,000,000,000

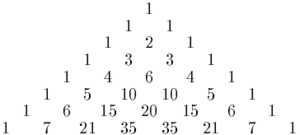
>>input 2 : 1,111,111,110,000,000,000

Output : -1e9

3)Develop a program which accept an integer from user and in the output it will show pascal triangle with n-th level.(15 pts)

* scanf() is allowed.
* printf() is allowed.
* math.h is allowed.

// for e.g. if n = 7



4)Develop a Program for Tower of Hanoi .

Tower of Hanoi is a mathematical puzzle where we have three rods and n disks. The objective of the puzzle is to move the entire stack to another rod, obeying the following simple rules:

1) Only one disk can be moved at a time.

2) Each move consists of taking the upper disk from one of the stacks and placing it on top of another stack i.e. a disk can only be moved if it is the uppermost disk on a stack.

3) No disk may be placed on top of a smaller disk.

Prototype is up to you.

