What will be the output of the following statements which are executed in sequence?
printf("%s",strcpy(s3,s1));
printf("%s",strcat(strcat(strcpy(s4,s1),"or"),s2)));

(b) [String] Take a string as an input from user. Now remove all the vowels from that string. Remove all the letters l,m,n from the string. Remove any spaces from the string. Now measure string length –with your own function (no string.h function) [2+2+2+2+5]

5. (a)[Recursion] What is recursion? Can you give an example? What will happen if your recursive function does not stop? [5]

(b)What does the following recursive function do? [5]

```
void show(int x, int n){
        if(x > n) return;
        else{
                printf("%d\n", x);
                show(x+1,n);
        }
}
```

(b) Write a recursive function *hanoi* that outputs the solution of the famous "Tower of Hanoi" problem. Briefly, *hanoi* function takes an integer n as parameter and returns 1 if n is equal to 1, otherwise it returns the result of 2*hanoi(n-1)+1. For e.g., hanoi(4) is computed as follows: [5]

hanoi(4) = 2*hanoi(3) + 1

= 2*(2*hanoi(2) + 1) + 1

= 2*(2*(2*hanoi(1) + 1) + 1) + 1

= 2*(2*(2*1 + 1) + 1) + 1

= 2*(2*(3) + 1) + 1

= 2*(7) + 1

= 15

6. (a) What is a pointer? [2+3+10]

(b)Give the general syntax to declare, assignment and accessing the content of an integer type pointer.

(c)Write the corresponding values of the variables and pointers (the variable it points) in the table according to the following sequential program statements. The first two is done for you.

Program statements	a	b	a_p	b_p
int a = 50, b = 0;	50	0	-	-
int *a_p = &a, *b_p = &b;	50	0	a	b
b = a + *b_p:				
a_p = b_p;				
a = (*a_p) * (*b_p);				
*b_p = a / b;				
*a_p = a % b;				

7. [Extra Credit] What is the funniest mistake you made when you were coding? [5]