

CS 2103

Assignment in Data Structures (Linked List Implementation)

Submitted by:

**Robert Michael Lim, BSCS – 2**

Submitted to:

**Ms. Christine F. Peña**

With the structure definition of:

typedef struct node{

char elem;

struct node \*link;

}\*List;

Write the code for:

1. **deleteFirstOccur()**

int deleteFirstOccur(List \*A, char data)

{

List temp, \*trav;

int pos=1;

for(trav = A; \*trav!=NULL && (\*trav)->elem != data; trav = &(\*trav)->link){

pos++;

}

if(\*trav !=NULL ){

temp = \*trav;

\*trav = (\*trav)->link;

free(temp);

}

return(\*trav!=NULL)?pos:-1;

}

1. **deleteAllOccur()**

int deleteAllOccur(List \*L, char x)

{

List temp, \*trav;

int retval;

retval = 0;

for(trav=L;\*trav!=NULL;){

if((\*trav)->elem == x){

retval++;

temp = \*trav;

\*trav = (\*trav)->link;

free(temp);

}else{

trav = &(\*trav)->link;

}

}

return (retval>0)?retval:-1;

}

1. **insertFirst()**

void insertFirst(List \*L, char data)

{

List \*trav, temp;

for(trav = L; \*trav!=NULL && (\*trav)->elem != data; trav = &(\*trav)->link){}

if(\*trav==NULL){

temp = (List)malloc(sizeof(struct node));

if(temp!=NULL){

temp->elem = data;

temp->link = \*L;

\*L = temp;

}

}

}