**Single Linked List**

**#include <stdio.h>**

**#include <malloc.h>**

**#include <stdlib.h>**

struct node {

int value;

struct node \*next;

};

void **insert**();

void **display**();

void **delet**();

int **count**();

typedef struct node DATA\_NODE;

DATA\_NODE \*head\_node, \*first\_node, \*temp\_node = 0, \*prev\_node, next\_node;

int data;

int **main**() {

int option = 0;

printf("Singly Linked List Example - All Operations\n");

while (option < 5) {

printf("\nOptions\n");

printf("1 : Insert into Linked List \n");

printf("2 : Delete from Linked List \n");

printf("3 : Display Linked List\n");

printf("4 : Count Linked List\n");

printf("Others : Exit()\n");

printf("Enter your option:");

scanf("%d", &option);

switch (option) {

case 1:

insert();

break;

case 2:

delet();

break;

case 3:

display();

break;

case 4:

count();

break;

default:

break;

}

}

return 0;

}

void **insert**() {

printf("\nEnter Element for Insert Linked List : \n");

scanf("%d", &data);

temp\_node = (DATA\_NODE \*) malloc(sizeof (DATA\_NODE));

temp\_node->value = data;

if (first\_node == 0) {

first\_node = temp\_node;

} else {

head\_node->next = temp\_node;

}

temp\_node->next = 0;

head\_node = temp\_node;

fflush(stdin);

}

void **delet**() {

int countvalue, pos, i = 0;

countvalue = count();

temp\_node = first\_node;

printf("\nDisplay Linked List : \n");

printf("\nEnter Position for Delete Element : \n");

scanf("%d", &pos);

if (pos > 0 && pos <= countvalue) {

if (pos == 1) {

temp\_node = temp\_node -> next;

first\_node = temp\_node;

printf("\nDeleted Successfully \n\n");

} else {

while (temp\_node != 0) {

if (i == (pos - 1)) {

prev\_node->next = temp\_node->next;

if(i == (countvalue - 1))

{

head\_node = prev\_node;

}

printf("\nDeleted Successfully \n\n");

break;

} else {

i++;

prev\_node = temp\_node;

temp\_node = temp\_node -> next;

}

}

}

} else

printf("\nInvalid Position \n\n");

}

void **display**() {

int count = 0;

temp\_node = first\_node;

printf("\nDisplay Linked List : \n");

while (temp\_node != 0) {

printf("# %d # ", temp\_node->value);

count++;

temp\_node = temp\_node -> next;

}

printf("\nNo Of Items In Linked List : %d\n", count);

}

int **count**() {

int count = 0;

temp\_node = first\_node;-

while (temp\_node != 0) {

count++;

temp\_node = temp\_node -> next;

}

printf("\nNo Of Items In Linked List : %d\n", count);

return count;

}