**WEEK 4 Singly Linked List:**

#include <stdio.h>

#include <stdlib.h>

#include <conio.h>

typedef struct Node

{

int data;

struct Node\* next;

} Node;

Node\* head = NULL;

void push();

void append();

void insert();

void display();

void main()

{

int choice;

while (1) {

printf("1. Insert at beginning\t 2. Insert at end\t 3. Insert at position\t 4. Display\t

5.Exit\t\n");

printf("Enter choice: \n ");

scanf("%d", &choice);

switch (choice)

{

case 1:

push();

break;

case 2:

append();

break;

case 3:

insert();

break;

case 4:

display();

break;

default:

printf("Exiting the program");

}

}

}

void push()

{

Node\* temp = (Node\*)malloc(sizeof(Node));

int new\_data;

printf("Enter data in the new node: ");

scanf("%d", &new\_data);

temp->data = new\_data;

temp->next = head;

head = temp;

}

void append()

{

Node\* temp = (Node\*)malloc(sizeof(Node));

int new\_data;

printf("Enter data in the new node: ");

scanf("%d", &new\_data);

temp->data = new\_data;

temp->next = NULL;

if (head == NULL) {

head = temp;

return;

}

Node\* temp1 = head;

while (temp1->next != NULL) {

temp1 = temp1->next;

}

temp1->next = temp;

}

void insert() {

Node\* temp = (Node\*)malloc(sizeof(Node));

int new\_data, pos;

printf("Enter data in the new node: ");

scanf("%d", &new\_data);

printf("Enter position of the new node: ");

scanf("%d", &pos);

temp->data = new\_data;

temp->next = NULL;

if (pos == 0) {

temp->next = head;

head = temp;

return;

}

Node\* temp1 = head;

while (pos--) {

temp1 = temp1->next;

}

Node\* temp2 = temp1->next;

temp->next = temp2;

temp1->next = temp;

}

void display()

{

Node\* temp1 = head;

while (temp1 != NULL) {

printf("%d -> ", temp1->data);

temp1 = temp1->next;

}

printf("NULL\n");

}

**Output:**

