#include <stdio.h>

#include <stdlib.h>

struct node

{

int num;

struct node \*next;

};

void create(struct node \*\*);

void reverse(struct node \*\*, int);

void release(struct node \*\*);

void display(struct node \*);

int main()

{

struct node \*p = NULL;

int n;

printf("Enter data into the list\n");

create(&p);

printf("Displaying the nodes in the list:\n");

display(p);

printf("Enter the number N to reverse first N node: ");

scanf("%d", &n);

printf("Reversing the list...\n");

if (n > 1)

{

reverse(&p, n - 2);

}

printf("Displaying the reversed list:\n");

display(p);

release(&p);

return 0;

}

void reverse(struct node \*\*head, int n)

{

struct node \*p, \*q, \*r, \*rear;

p = q = r = \*head;

if (n == 0)

{

q = q->next;

p->next = q->next;

q->next = p;

\*head = q;

}

else

{

p = p->next->next;

q = q->next;

r->next = NULL;

rear = r;

q->next = r;

while (n > 0 && p != NULL)

{

r = q;

q = p;

p = p->next;

q->next = r;

n--;

}

\*head = q;

rear->next = p;

}

}

void create(struct node \*\*head)

{

int c, ch;

struct node \*temp, \*rear;

do

{

printf("Enter number: ");

scanf("%d", &c);

temp = (struct node \*)malloc(sizeof(struct node));

temp->num = c;

temp->next = NULL;

if (\*head == NULL)

{

\*head = temp;

}

else

{

rear->next = temp;

}

rear = temp;

printf("Do you wish to continue [1/0]: ");

scanf("%d", &ch);

} while (ch != 0);

printf("\n");

}

void display(struct node \*p)

{

while (p != NULL)

{

printf("%d\t", p->num);

p = p->next;

}

printf("\n");

}

void release(struct node \*\*head)

{

struct node \*temp = \*head;

\*head = (\*head)->next;

while ((\*head) != NULL)

{

free(temp);

temp = \*head;

(\*head) = (\*head)->next;

}

}