# Problem 4

#include<iostream>

using namespace std;

class List {

struct Node {

char data;

Node \*next;

};

public:

Node \*head;

List() {

delete head;

head = NULL;

}

~List() {

delete head;

head = NULL;

}

void add\_new\_node\_at\_last(int d)

{

Node \*curr = new Node;

curr->data = d;

curr->next = NULL;

curr->previous = NULL;

if (head == NULL)

{

head = curr;

curr = NULL;

}

else

{

Node \*temp = head;

while (temp->next != NULL)

{

temp = temp->next;

}

temp->next = curr;

curr->previous = temp;

curr = NULL;

}

}

void reverse\_list(Node \*temp)

{

cout <<"Reversed List\n";

if (temp->next != NULL)

reverse\_list(temp->next);

cout << temp->data << ", ";

}

void show\_list()

{

Node \*temp = head; int i = 1;

while (temp != NULL)

{

cout << "No. " << temp->data << endl;

temp = temp->next;

i++;

}

}

};

int main()

{

List obj;

char i = 'a', score;

cout << "To finish enter ~\n";

while (1)

{

cin >> i;

if (i != '~')

{

obj.add\_new\_node\_at\_last(i);

}

else

break;

}

obj.show\_list();

obj.reverse\_list(obj.head);

system("pause");

return 0;

}