# #9

**SOURCE CODE:**

#include<iostream> #include<bits/stdc++.h> using namespace std;

class Stack{ char a[500]; int top, len; public:

Stack(){ top = -1;

}

void createStack(string str); void push(char a[], char c); void displayOriginal(); void displayReverse();

void palindrome();

};

void Stack::createStack(string str){ len = str.size();

for(int i = 0; i<len; i++){ push(a,str[i]);

}

a[len] = '\0';

}

void Stack::push(char a[],char c){

cout << "Pushing element " << c << " in stack " << endl;

top++; a[top] = c; return;

}

void Stack::displayOriginal(){ int i = 0;

while (a[i] != '\0'){ cout << a[i] << " "; i++;

}

cout<<endl;

}

void Stack::displayReverse(){ int i = len-1;

while (i >= 0){

cout << a[i] << " "; i--;

}

cout << endl;

}

void Stack::palindrome(){ for(int i = 0; i<len; i++){

if (a[i] != a[len-1-i]){

cout << "Not palindrome " << endl; return;

}

}

cout << "Palindrome "<< endl; return;

}

int main(){ Stack s; string n;

cout << "Enter string : "; getline(cin, n);

bool flag = true; while(flag){

int ch;

cout << "\nChoices : " << endl;

cout << "1. Create stack\n2. Display Original stack\n3. Display reverse stack\n4. Check palindrome\n5. Exit" << endl;

cout << "Enter your choices : "; cin >> ch;

switch(ch){ case 1:

s.createStack(n); break;

case 2: s.displayOriginal(); break;

case 3: s.displayReverse(); break;

case 4: s.palindrome(); break;

case 5:

cout << "Program end !!" << endl; flag = false;

break;

}

}

}