



# Palindrome using Stacks

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**Methodology and Program**

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**Semester 3: Data Structures**

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```
#include<stdio.h>
#include<conio.h>
#include<string.h>
#include<stdlib.h>
#define MAX 100
char stack[MAX];
int top=-1;

void push(char s)
{
    if(top==MAX-1)
    {
        printf("Stack is full.EXITING...\n");
        exit(0);
    }
    else
    {
        top++;
        stack[top]=s;
    }
}

char pop()
{
    char data;
    if(top== -1)
    {
        printf("Stack is empty.EXITING...\n");
        exit(0);
    }
    else
    {
        data=stack[top];
        top--;
    }
    return data;
}
```

```
void main()
{
    char str[50],ans[50];
    int length,i;
    clrscr();
    strset(str,'\0');
    strset(ans,'\0');
    printf("Enter the string:");
    scanf("%s",str);
    length=strlen(str);
    for(i=0;i<length;i++)
    {
        push(str[i]);
    }
    for(i=0;i<length;i++)
    {
        ans[i]=pop();
    }
    printf("Input=%s\n",str);
    printf("Answer=%s\n",ans);
    if(strcmp(str,ans)==0)
        printf("The string is a palindrome!!!");
    else
        printf("The string is not a palindrome.");
    getch();
}
```