```
#include<iostream>
#include<string.h>
#define max 50
using namespace std;

class STACK
{
 private:
  char a[max];
  int top;

 public:
  STACK()
  {
   top=-1;
  }

  void push(char);
  void reverse();
  void convert(char[]);
  void palindrome();
};

void STACK::push(char c)
{
 top++;
 a[top] = c;
 a[top+1]='\0';

 cout<<endl<<c<<" is pushed on stack ...";
}

void STACK::reverse()
{
 char str[max];

 cout<<"\n\nReverse string is : ";

 for(int i=top,j=0; i>=0; i--,j++)
 {
  cout<<a[i];
  str[j]=a[i];
 }

 cout<<endl;
}


void STACK::convert(char str[])
{
 int j,k,len = strlen(str);

 for(j=0, k=0; j<len; j++)
 {
  if( ( (int)str[j] >= 97 && (int)str[j] <=122 ) || ( (int)str[j] >= 65 && (int)str[j] <=90 ))
```

```
  {
   if( (int)str[j] <=90 )
   {
    str[k] = (char)( (int)str[j] + 32 );
   }else
   {
    str[k] = str[j];
   }

   k++;
  }
 }
 str[k]='\0';

 cout<<endl<<"Converted String : "<<str<<"\n";
}




void STACK::palindrome()
{
 char str[max];
 int i,j;

 for(i=top,j=0; i>=0; i--,j++)
 {
  str[j]=a[i];
 }
 str[j]='\0';


 if(strcmp(str,a) == 0)
  cout<<"\n\nString is palindrome...";
 else
  cout<<"\n\nString is not palindrome...";
}


int main()
{
 STACK stack;

 char str[max];
 int i=0;

 cout<<"\nEnter string to be reversed and check is it palindrome or not : \n\n";

 cin.getline(str , 50);

 stack.convert(str);

 while(str[i] != '\0')
 {
  stack.push(str[i]);
```

```
 i++;
 }

 stack.palindrome();

 stack.reverse();

}
```