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Batch : A3

```
#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";
```

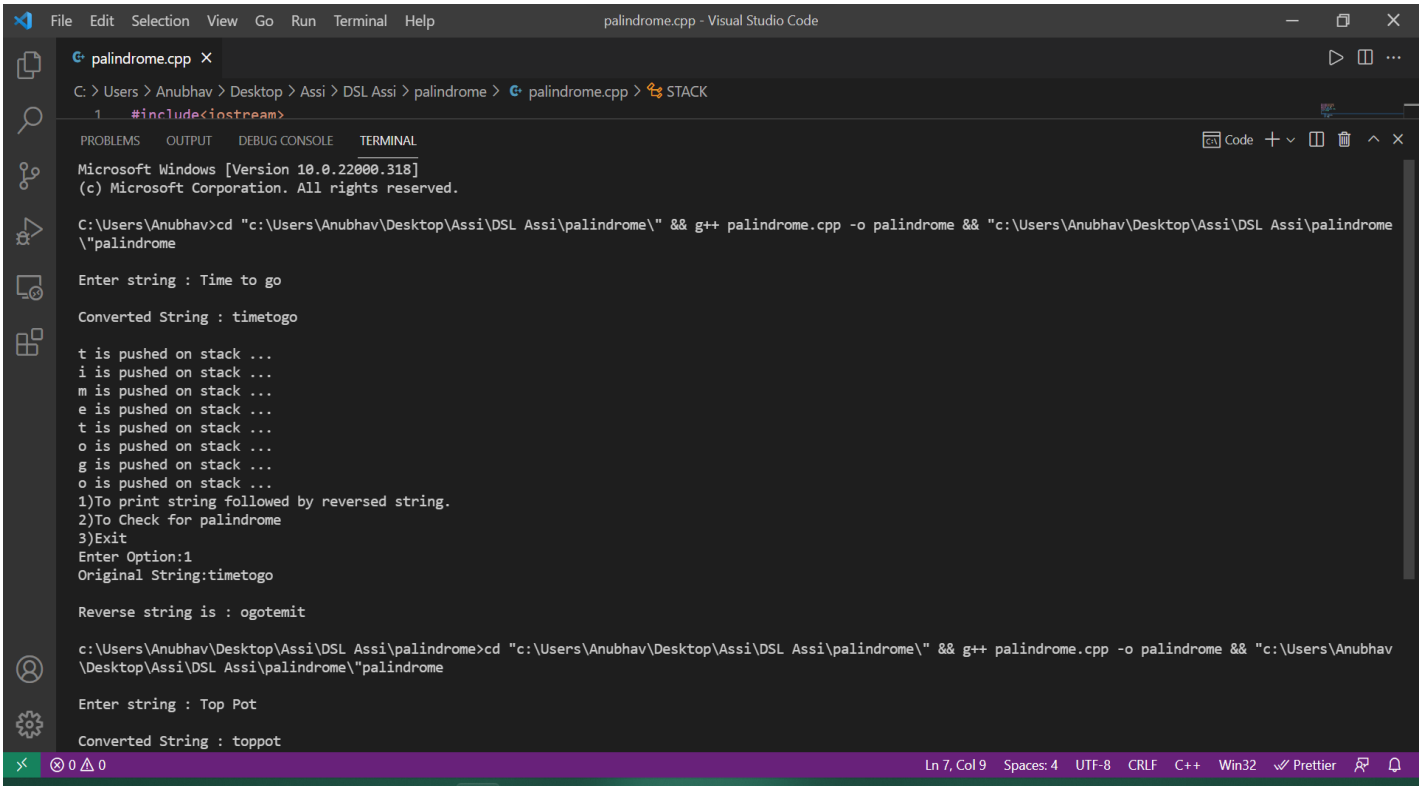
```
}

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 : ";
   cin.getline(str , 50);
   stack.convert(str);
   while(str[i] != '\0')
   {
      stack.push(str[i]);
      i++;
   }
   int choo;
   cout<<"\n1)To print string followed by reversed string.\n2)To Check for palindrome\n3)Exit\nEnter Option:";
```

```
    cin>>choo;
    switch (choo)
    {
       case 1:
       cout<<"Original String:"<<str;
       stack.reverse();
       break;
       case 2:
       stack.palindrome();
       break;
       default:
       break;
    }
}
```

Output:




```
Enter string : Top Pot

Converted String : toppot

t is pushed on stack ...
o is pushed on stack ...
p is pushed on stack ...
p is pushed on stack ...
o is pushed on stack ...
t is pushed on stack ...
1)To print string followed by reversed string.
2)To Check for palindrome
3)Exit
Enter Option:3

c:\Users\Anubhav\Desktop\Assi\DSL Assi\palindrome>_
```