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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:";
```

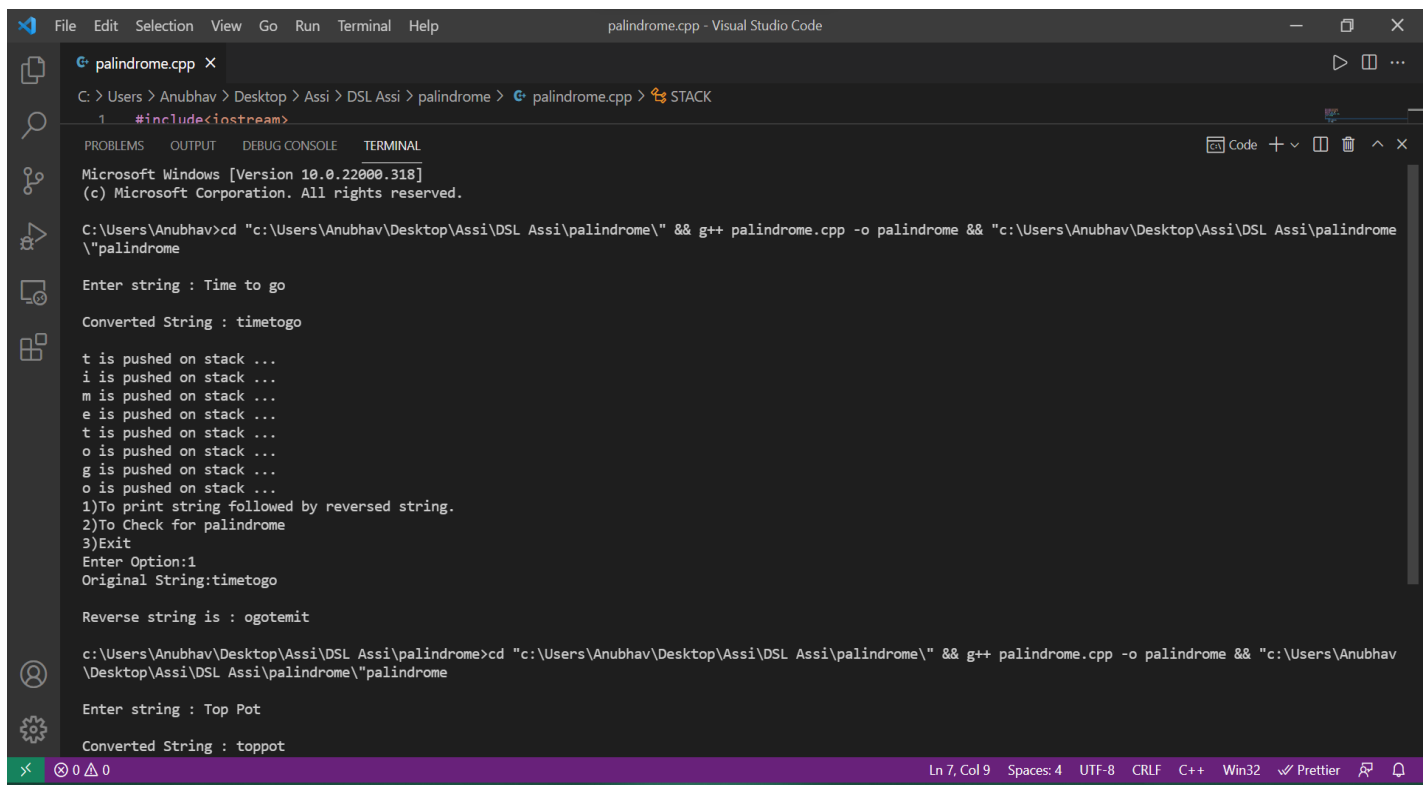
```
cin>>choo;

switch (choo)
{
    case 1:
        cout<<"Original String:"<<str;
        stack.reverse();

        break;
    case 2:
        stack.palindrome();

        break;
    default:
        break;
}
}
```

Output:



```
palindrome.cpp X
C: > Users > Anubhav > Desktop > Assi > DSL Assi > palindrome > palindrome.cpp > STACK
1 #include<iostream>

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Microsoft Windows [Version 10.0.22000.318]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Anubhav>cd "c:\Users\Anubhav\Desktop\Assi\DSL Assi\palindrome\" && g++ palindrome.cpp -o palindrome && "c:\Users\Anubhav\Desktop\Assi\DSL Assi\palindrome\palindrome

Enter string : Time to go

Converted String : timetogo

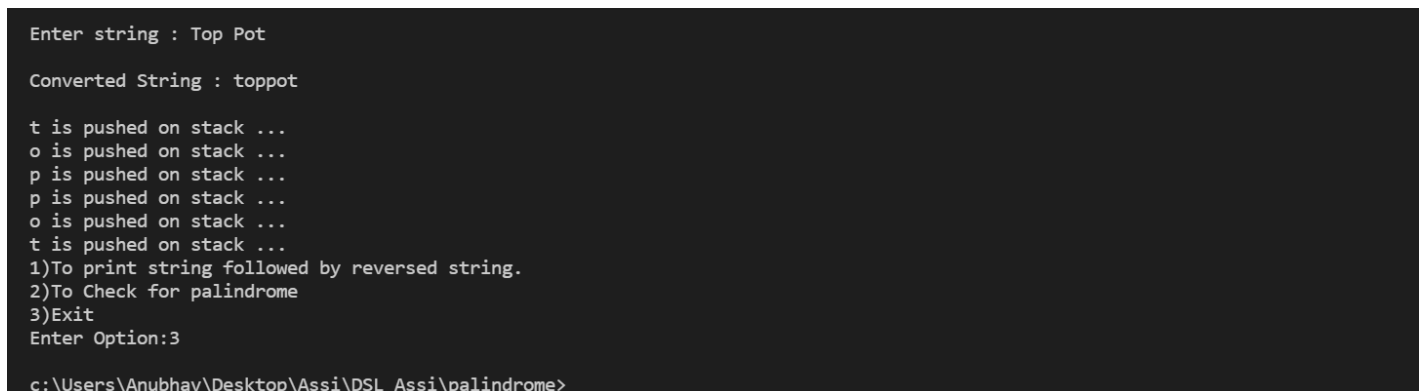
t is pushed on stack ...
i is pushed on stack ...
m is pushed on stack ...
e is pushed on stack ...
t is pushed on stack ...
o is pushed on stack ...
g is pushed on stack ...
o is pushed on stack ...
1)To print string followed by reversed string.
2)To Check for palindrome
3)Exit
Enter Option:1
Original String:timetogo

Reverse string is : ogotemit

c:\Users\Anubhav\Desktop\Assi\DSL Assi\palindrome>cd "c:\Users\Anubhav\Desktop\Assi\DSL Assi\palindrome\" && g++ palindrome.cpp -o palindrome && "c:\Users\Anubhav\Desktop\Assi\DSL Assi\palindrome\palindrome

Enter string : Top Pot

Converted String : toppot
```



```
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>_
```