DATA STRUCTURES AND ALOGRITHAM

ASSIGNMENT #1:

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Task #1 :

Write a program to let the user enter a string of his own choice. Check whether the given string is a palindrome or not.

Code :

```
string=input("Enter a string")
string2="
stack1=[]
for i in string:
 stack1.append(i)
while len(stack1)!=0:
 string2=string2+stack1.pop()
if(string2==string):
 print("The entered string is palendrom")
 else:
 print("The entered string is not a palendrom")
```

```
string=input("Enter a string")
string2=''
stack1=[]
for i in string:
 stack1.append(i)
while len(stack1)!=0:
 string2=string2+stack1.pop()
if(string2==string):
 print("The entered string is palendrom")
else:
 print("The entered string is not a palendrom")
```

```
Enter a stringmadam
The entered string is palendrom
```

TASK #2 :

Write a program to check the balanced parenthesis in the expression or not using stack.

CODE :

Code2:-

expression=input("Enter an expression")

stack1=[]

var1=0

for i in expression:

 if(i=='[' or i=='(' or i=='{'):

   stack1.append(i)

 if(i==']' or i==')' or i=='}'):

  if(len(stack1)==0):

print("Unbalanced")

    var1=var1+1;

  else:

   print(stack1.pop())

if ((len(stack1)==0) and var1==0):

 print("Expression balanced")

else:

 print("Expression unbalanced")

```
var1=0
for i in expression:
 if(i=='[' or i=='(' or i=='{'):
    stack1.append(i)
 if(i==']' or i==')' or i=='}'):
   if(len(stack1)==0):
      print("Unbalanced")
      var1=var1+1;
   else:
    print(stack1.pop())

if ((len(stack1)==0) and var1==0):
  print("Expression balanced")
else:
  print("Expression unbalanced")
|
```

Enter an expression(my name is{shayan}
{
Expression unbalanced