**Data structures and Alogrithm Lab**

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| Batch & Section | **2020 BS-Computer Science section A** |
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**Lab task: 01**

**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")

**Output:-**





**Lab task: 02**

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

**Code 1:-**

expression=input("Enter an  expression:")

var1=0

print(expression)

counter=0

for i in expression:

 if(i=='(' or i=='[' or i=='{'):

    print(i)

    counter=counter+1

 if(i==')' or i==']' or i=='}'):

   if(counter==0):

     print("Invalid expression")

     var1=var1+1

   else:

     counter=counter-1

if(counter==0 and var1==0):

 print("Expression is balanced")

else:

 print("Expression is unbalanced")

**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")

**Output:-**



