

Institute of Space Technology

Data Structure and Algorithm

LAB #01

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# QUESTION #01:

# CODE:

from collections import deque

a = input("Enter any string: ")

#taking string from the user

stack1 = deque()

#initializing the stack

reverse\_a = ""

#reversing the string stored in a stack

j = 0

#checking the lenghth

while j < len(a):

#pushing the values if condition is true

    stack1.append(a[j])

    j= j+1

while len(stack1) != 0:

#reversing and pop the values if this condition is true

    reverse\_a = reverse\_a + stack1.pop().upper()

#printing whether it is a palindrome or not

if a.upper() == reverse\_a:

    print("It is a palindrome")

else:

    print("It is not a palindrome")

**OUTPUT:**

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# QUESTION #02:

# CODE:

a=input("Enter the equation u want: ")

#take an eq from the user

stack=[]

for ch in a:

#push the eq in stack

stack.append(ch)

#codition that they are not equal then print dont match

if(stack.count('[')!=stack.count(']')):

print("[] Don't match!")

elif (stack.count('{')!=stack.count('}')):

print("{} Don't match!")

elif (stack.count('(')!=stack.count(')')):

print("() Don't match!")

#if condition is false means they all matched

else:

print("[] Matched!")

print("{} Matched!")

print("() Matched!")

# OUTPUT:

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# A picture containing text Description automatically generated