**Assignment\_2\_21108048[Aditya Anand]**

# Q1

str1=("Python is a case sensetive language")

print(len(str1))

print(str1[::-1])

print(str1.replace("a case sensetive" , "object oriented"))

print(str1.find('a'))

print(str1.replace(" ",""))

#Q2

Name =input("Name: ")

SID =input("SID :")

Department =input("Branch:")

CGPA = input("CGPA: ")

print("Hey,", Name, "here!")

print("My SID is:", SID)

print("I am", Name, "from",Department,"and my CGPA is",CGPA)

#Q3

a=56

b=10

print(a&b)

print(a|b)

print(a^b)

print("Left shift a with 2 bits:", a<<2)

print("left shift b with 2 bits:", b<<2)

print("right shift a with 2 bits:", a>>2)

print("right shift b with 2 bits:", b>>2)

#Q4

a= input("Word: ")

if 'name' in a:

print("Yes, The worf 'name' is present in 'Word'.")

else:

print("No, The word 'name' is not present in the 'word'.")

#Q5

x= int(input("First side:"))

y= int(input("Second side:"))

z= int(input("third side:"))

i= str(bool(x + y > z and y + z > x and x + z > y)).replace(str(True),"Yes").replace(str(False), "No")

print(i)

#Q6

# python program to count number of bits needed to be flipped to convert one number to another

num1= int(input("enter the 1st number :"))

num2= int(input("enter the 2nd number :"))

#using XOR to find number of different bits

c= num1^num2

#we need to find total '1's in XOR and that will be required bits

# converting it to a string

d= str(bin(c))

#assigning values to variables required for loop

occurence=0

start=0

#running loop where it finds 1

for i in range(len(d)):

# if j get a return value of -1 then 1 is absent at that index

j =d.find('1' , start)

if j !=-1:

#when 1 is present it shifts to next index and total occurence of'1' is

start=j+1

occurence += 1

#printing the two numbers in binary and their bits flipping answer

print("1st number = " , bin(num1))

print("2nd number = " , bin(num1))

print(occurence, "bits need to be flipped")