Acharya Institute of Technology

Department of Electronics and Communication

Python Programming

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AIT24BEAI055

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1. Write a Python program to add two binary numbers.

Input:-

def add\_binary(bin1, bin2):

    return bin(int(bin1, 2) + int(bin2, 2))[2:]

bin1 = input("Enter the first binary number: ")

bin2 = input("Enter the second binary number: ")

print(f"The sum of {bin1} and {bin2} is {add\_binary(bin1, bin2)}")

output:-

Enter the first binary number: 10

Enter the second binary number: 10

The sum of 10 and 10 is 100

1. Write a Python program to print a leap year.

Input:-

def is\_leap\_year(year):

    return (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0)

year = int(input("Enter a year to check if it's a leap year: "))

print(f"{year} is a leap year." if is\_leap\_year(year) else f"{year} is not a leap year.")

Output:-

Enter a year to check if it's a leap year: 2020

2020 is a leap year.

Or

Enter a year to check if it's a leap year: 2021

2021 is not a leap year.

3)Write a Python program to print a reverse of an array.

Input:-

def reverse\_array(arr):

    return arr[::-1]

input\_string = input("Enter numbers separated by commas: ")

array = list(map(int, input\_string.split(',')))

reversed\_array = reverse\_array(array)

print("Reversed array:", reversed\_array)

Output:-

Enter numbers separated by commas: 1,2,3,4

Reversed array: [4, 3, 2, 1]

4)Write a Python program to multiply two numbers.

Input:-

def multiply(a, b):

    return a \* b

num1 = float(input("Enter the first number: "))

num2 = float(input("Enter the second number: "))

result = multiply(num1, num2)

print(f"The product of {num1} and {num2} is {result}")

Output:-

Enter the first number: 5

Enter the second number: 3

The product of 5 and 3 is 15

5)Write a Python program to find a duplicate character in a string.

Input:-

from collections import Counter

def find\_duplicates(s):

    return {char for char, count in Counter(s).items() if count > 1}

string = input("Enter a string: ")

duplicates = find\_duplicates(string)

print("Duplicate characters:", ', '.join(duplicates) if duplicates else "No duplicate characters found.")

Output:-

Enter a string: Sangamesh

Duplicate characters: a