1. **Find lsd and msd of given number**

**Code**:

number = input("Enter a number: ")

lsd = number[-1]

msd = number[0]

lsd = int(lsd)

msd = int(msd)

print(f"Least Significant Digit (LSD): {lsd}")

print(f"Most Significant Digit (MSD): {msd}")

**2.square and cube**

**Code:**

n=int(input(“enter a number”))

x=n\*\*2

y=n\*\*3

print(int(x))

print(int(y))

**3.write the given string in the uppercase and count the number of spaces available in the string.**

**Code:**

user\_string = input("Enter a string: ")

uppercase\_string = user\_string.upper()

space\_count = user\_string.count(' ')

print(f"Uppercase String: {uppercase\_string}")

print(f"Number of Spaces: {space\_count}")

**4.Find out if the year of the given anniversary is a leap year or not. If leap year print the next anniversary, if not leap year then print the previous anniversary.**

**Code:**

def is\_leap\_year(year):

"""Check if a year is a leap year."""

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

return True

else:

return False

year = int(input("Enter the year of the anniversary: "))

if is\_leap\_year(year):

print(f"{year} is a leap year.")

next\_anniversary = year + 1

print(f"The next anniversary year is {next\_anniversary}.")

else:

print(f"{year} is not a leap year.")

previous\_anniversary = year - 1

print(f"The previous anniversary year is {previous\_anniversary}.")

**5.pyhton program for perform operation on a tuple concentrate two tuples .find the index of a specified element in the tuple. counts the number of occurances of a specified element in the tuple. display the modified tuple and the results of the index and count operations..**

**Code:**

tuple1 = tuple(input("Enter elements of the first tuple separated by space: ").split())

tuple2 = tuple(input("Enter elements of the second tuple separated by space: ").split())

concatenated\_tuple = tuple1 + tuple2

element = input("Enter the element to find the index and count: ")

try:

index\_of\_element = concatenated\_tuple.index(element)

except ValueError:

index\_of\_element = None

count\_of\_element = concatenated\_tuple.count(element)

print(f"Concatenated Tuple: {concatenated\_tuple}")

if index\_of\_element is not None:

print(f"The index of the element '{element}' is: {index\_of\_element}")

else:

print(f"The element '{element}' is not found in the tuple.")

print(f"The count of the element '{element}' is: {count\_of\_element}")

**6.write a program to print all the non prime numbers between a and b**

**Code:**

a = int(input("Enter the starting number (a): "))

b = int(input("Enter the ending number (b): "))

def is\_prime(n):

if n <= 1:

return False

for i in range(2, int(n\*\*0.5) + 1):

if n % i == 0:

return False

return True

non\_prime\_numbers = []

for num in range(a, b + 1):

if not is\_prime(num):

non\_prime\_numbers.append(num)

print("Non-prime numbers between", a, "and", b, "are:", non\_prime\_numbers)

**7.write a program to sort a list according to length of the elements.**

**Code:**

input\_list = input("Enter a list of words separated by spaces: ").split()

sorted\_list = sorted(input\_list, key=len)

print("Sorted list by length of elements:", sorted\_list)

**Input:** 1 234 34 678 54 4

**Output:** ['1', '4', '34', '54', '234', '678']

**8.write a program to sort words in alphabetical order**

**Code**:

words = input("Enter a list of words separated by spaces: ").split()

sorted\_words = sorted(words)

print("Sorted list of words in alphabetical order:", sorted\_words)

**Input:** ram affu sreeja hema divya

**Output:** ['affu', 'divya', 'hema', 'ram', 'sreeja']

**9. Write a program to read a character until a’\*’ is encountered also count the number of uppercase and lowercase numbers entered by the users.**

**Code:**

def count\_characters():

uppercase\_count = 0

lowercase\_count = 0

number\_count = 0

print("Enter characters one by one. Enter '\*' to stop:")

while True:

ch = input()

if ch == '\*':

break

elif ch.isupper():

uppercase\_count += 1

elif ch.islower():

lowercase\_count += 1

elif ch.isdigit():

number\_count += 1

print("Number of uppercase letters:", uppercase\_count)

print("Number of lowercase letters:", lowercase\_count)

print("Number of digits:", number\_count)

count\_characters()

**Input:**

a

H

8

5

u

\*

**Output:**

Number of uppercase letters: 1

Number of lowercase letters: 2

Number of digits: 2

**10.write a python program to remove duplicate item in the list**

**Code:**

def remove\_duplicates(numbers):

return list(set(numbers))

def remove():

try:

user\_input = input("Enter a list of numbers separated by spaces: ")

numbers = list(map(int, user\_input.split()))

unique\_numbers = remove\_duplicates(numbers)

print("List after removing duplicates:", unique\_numbers)

except ValueError:

print("Please enter a valid list of numbers.")

remove()

**input:**3 4 5 5 6 8 9

**output:**[3, 4, 5, 6, 8, 9]

**11.find sum of n numbers entered by users**

**Code:**

n=int(input("Enter the value:"))

sum=0

for i in range(1,n+1):

sum=sum+i

print(sum)

**Input: 10**

**output:55**

**12.write a program to print the number of vowels and consonants in given string**

**Code:**

def count\_vowels\_and\_consonants(input\_string):

vowels = "aeiouAEIOU"

vowel\_count = 0

consonant\_count = 0

for char in input\_string:

if char in vowels:

vowel\_count += 1

elif char.isalpha():

consonant\_count += 1

return vowel\_count, consonant\_count

input\_string=input('enter the string:')

vowels, consonants = count\_vowels\_and\_consonants(input\_string)

print(f"Number of vowels: {vowels}")

print(f"Number of consonants: {consonants}")

**Input**: hello world

**Output**: 3,7

**13.program to find whether two strings have the same character in the same index and returns the number of matches.**

**Code:**

string1 = input("Enter the first string: ")

string2 = input("Enter the second string: ")

if len(string1) != len(string2):

print("The strings have different lengths.")

else:

match\_count = 0

for i in range(len(string1)):

if string1[i] == string2[i]:

match\_count += 1

print(f"Number of matches at the same index: {match\_count}")

**Input:**

Afsin

divya

**Output:** 0

**14. Write a program to count the words starting “T” In the string**

**CODE:**

def count\_words\_starting\_with\_t(input\_string):

words = input\_string.split()

count = 0

for word in words:

if word.lower().startswith('t'):

count += 1

return count

input\_string = input('enter the string:')

count = count\_words\_starting\_with\_t(input\_string)

print(f"Number of words starting with 'T': {count}")

**INPUT:** The monkeys drank the tea

**OUTPUT:** 3

**15. Write a program to convert to the case of the given string**

**CODE:**

def convert\_case(input\_string):

uppercase\_string = input\_string.upper()

lowercase\_string = input\_string.lower()

titlecase\_string = input\_string.title()

return uppercase\_string, lowercase\_string, titlecase\_string

input\_string = input('enter the string:')

uppercase, lowercase, titlecase = convert\_case(input\_string)

print(f"Uppercase: {uppercase}")

print(f"Lowercase: {lowercase}")

print(f"Titlecase: {titlecase}")1

**INPUT:** APPLE

**OUTPUT:** Uppercase: APPLE

Lowercase: apple

Title case: Apple

**16. Write a program to convert the Decimal to Binary**

**CODE:**

def decimal\_to\_binary(decimal\_number):

if decimal\_number == 0:

return "0"

binary\_number = ""

while decimal\_number > 0:

remainder = decimal\_number % 2

binary\_number = str(remainder) + binary\_number

decimal\_number = decimal\_number // 2

return binary\_number

decimal\_number = 57

binary\_representation = decimal\_to\_binary(decimal\_number)

print(f"Binary representation of {decimal\_number} is {binary\_representation}")

**INPUT:** 57

**OUTPUT:** Binary representation of 57 is 111001