Aim: Write a program to swap two numbers without using third variable.

Date: 03/01/2022

Program No.1

**Program**

print("Swapping numbers using third Variable")

print("#####################################")

n=int(input("Enter 1st number:"))

p=int(input("Enter 2nd number:"))

print("Before Swapping")

print(n)

print(p)

q=n

n=p

p=q

print("After Swapping")

print(n)

print(p)

**Output**

Swapping numbers using third Variable

#####################################

Enter 1st number:12

Enter 2nd number:34

Before Swapping

12

34

After Swapping

34

12

Aim: Write a program to read a number n and compute n+nn+nnn

Date: 03/01/2022

Program No.2

**Program**

print("Swapping numbers without using variables")

print("########################################")

a=int(input("Enter the 1st Number:"))

b=int(input("Enter the 2nd Number:"))

print("Before Swapping")

print(a)

print(b)

a=a+b

b=a-b

a=a-b

print("After Swapping")

print(a)

print(b)

**Output**

Swapping numbers without using variables

########################################

Enter the 1st Number:34

Enter the 2nd Number:32

Before Swapping

34

32

After Swapping

32

34

Aim: Python program to reverse a given number

Date: 03/01/2022

Program No.3

**Program**

print("Program to reverse a number")

print("###########################")

n=int(input("Enter the number"))

rev=0

while n>0:

d=n%10

rev=rev\*10+d

n=n//10

print("Reverse of number",rev)

**Output**

Program to reverse a number

########################

Enter the number: 12

Reverse of number: 21

Aim: Python program to check whether a number is Positive or Negative

Date: 03/01/2022

Program No.4

**Program**

print("Program to find positive or even number")

print("#######################################")

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

if n>0:

print("Positive Number")

elif n==0:

print("Zero")

else:

print("negative Number")

**Output**

Program to find positive or even number

#######################################

Enter the number:23

Positive Number

Aim: Python program to take in the marks of 5 subjects and display the grade.

Date: 03/01/2022

Program No.5

**Program**

n1=int(input("Enter 1st Subject Mark:"))

n2=int(input("Enter 2nd Subject Mark:"))

n3=int(input("Enter 3rd Subject Mark:"))

n4=int(input("Enter 4th Subject Mark:"))

n5=int(input("Enter 5th Subject Mark:"))

avg=((n1+n2+n3+n4+n5)//5)

if avg>90:

print("Grade: A++")

elif (avg>80 and avg <90):

print("Grade:A")

elif (avg>70 and avg <80):

print("Grade:B+")

elif (avg>70 and avg <80):

print("Grade:B+")

else:

print("Grade:B")

**Output**

Enter 1st Subject Mark:89

Enter 2nd Subject Mark:90

Enter 3rd Subject Mark:97

Enter 4th Subject Mark:67

Enter 5th Subject Mark:89

Grade: A

Aim: Python program to print all numbers in a range divisible by a number.

Date: 03/01/2022

Program No.6

**Program**

upper=int(input("Enter the upper Limit:"))

lower=int(input("Enter the lower Limit:"))

n=int(input("Enter the no to be divided:"))

for i in range (lower,upper+1):

if(i%n==0):

print(i)

**Output**

Enter the upper Limit:50

Enter the lower Limit:20

Enter the no to be divided:9

27

36

45

Aim: Python program to read two numbers and print their quotient and reminder.

Date: 03/01/2022

Program No.7

**Program**

a=int(input("Enter the 1st numner:"))

b=int(input("Enter the 2nd numner:"))

q=a//b

print("Quotient is:",q)

r=a%b

print("Remainder is:",r)

**Output**

Enter the 1st numner:10

Enter the 2nd numner:2

Quotient is: 5

Remainder is: 0

Aim: Python program to accept three digits and print all possible combination from the digits.

Date: 03/01/2022

Program No.8

**Program**

a=int(input("Enter 1st number:"))

b=int(input("Enter 2nd number:"))

c=int(input("Enter 3rd number:"))

d=[]

d.append(a)

d.append(b)

d.append(c)

for i in range (0,3):

for j in range (0,3):

for k in range (0,3):

if(i!=j and j!=k and k!=i):

print(d[i],d[j],d[k])

**Output**

Enter 1st number:10

Enter 2nd number:20

Enter 3rd number:30

10 20 30

10 30 20

20 10 30

20 30 10

30 10 20

30 20 10

Aim: Python program to print odd numbers within a given range.

Date: 03/01/2022

Program No.9

**Program**

upper=int(input("Enter the upper Limit:"))

lower=int(input("Enter the lower Limit:"))

for i in range (lower,upper+1):

if(i%2!=0):

print(i)

**Output**

Enter the upper Limit:10

Enter the lower Limit:1

1

3

5

7

9

Aim: Python program to find sum of digits in a number

Date: 03/01/2022

Program No.10

**Program**

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

sum=0

for i in range (n):

dig=n%10

sum=sum+dig

n=n//10

print("The Sum of digits is:",sum)

**Output**

Enter the number: 789

The Sum of digits is: 24

Aim: Python program to find the smallest divisor of an integer.

Date: 03/01/2022

Program No.11

**Program**

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

a=[]

for i in range(2,n+1):

if(n%i==0):

a.append(i)

a.sort()

print("Smallest Divisor is:",a[0])

**Output**

Enter the number: 9

Smallest Divisor is: 3

Aim: Python program to count the number of digits in a number.

Date: 06/01/2022

Program No.12

**Program**

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

count=0

while(n>0):

count=count+1

n=n//10

print("The no of digits in a number:",count)

**Output**

Enter the number: 567

The no of digits in a number: 3

Aim: Python program to check if a number is a Palindrome.

Date: 06/01/2022

Program No.13

**Program**

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

temp=n

rev=0

while(n>0):

dig=n%10

rev=rev\*10+dig

n=n//10

if(temp==rev):

print("Number is a palindrome")

else:

print("Number is not palindrome")

**Output**

Enter the number: 121

Number is a palindrome

Aim: Python program to print all integers that aren’t divisible by either 2 or 3 and lie between 1 and 50

Date: 06/01/2022

Program No.14

**Program**

for i in range(0,51):

if(i%2!=0 and i%3!=0):

print(i)

**Output**

1

5

7

11

13

17

19

23

25

29

31

35

37

41

43

47

49

Aim : Python program to read number n and print the series “1+2+….+n=”

Date: 06/01/2022

Program No.15

**Program**

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

a=[]

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

print(i,sep="",end="")

if(i<n):

print("+",sep="",end="")

a.append(i)

print("=",sum(a))

print()

**Output**

Enter the number:10

1+2+3+4+5+6+7+8+9+10= 55

Aim : Python program to read a number n and print the natural numbers summation pattern

Date: 06/01/2022

Program No.16

**Program**

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

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

a=[]

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

print(i,sep="",end="")

if(i<j):

print("+",sep="",end="")

a.append(i)

print("=",sum(a))

**Output**

Enter the number:5

1= 1

1+2= 2

1+2+3= 3

1+2+3+4= 4

1+2+3+4+5= 5

Aim : Python program to print an inverted star pattern

Date: 06/01/2022

Program No.17

**Program**

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

for i in range(n,0,-1):

print((n-i)\*''+ i\*'\*')

**Output**

Enter the number: 5

\*\*\*\*\*

\*\*\*\*

\*\*\*

\*\*

\*

Aim : Python program to find largest number in a list.

Date: 06/01/2022

Program No.18

**Program**

print("LARGEST NUMBER FROM A LIST")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

a=[]

n=int(input("Enter The Limit "))

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

b=int(input())

a.append(b)

a.sort()

print(a)

print("Largest Number = ",a[n-1])

**Output**

LARGEST NUMBER FROM A LIST

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit 5

10

2

4

77

6

[2, 4, 6, 10, 77]

Largest Number = 77

Aim : Python program to find the second largest number in a list.

Date: 10/01/2022

Program No.19

**Program**

print("SECOND LARGEST NUMBER FROM A LIST")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

a=[]

n=int(input("Enter The Limit "))

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

b=int(input())

a.append(b)

a.sort()

print(a)

print("Second Largest Element = ",a[n-2])

**Output**

SECOND LARGEST NUMBER FROM A LIST

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit 4

3

4

5

2

[2, 3, 4, 5]

Second Largest Element = 4

Aim : Python program to put even and odd elements in a list into two different lists.

Date: 10/01/2022

Program No.20

**Program**

print("ODD AND EVEN ELEMENTS INTO TWO DIFFERENT LISTS")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

even=[]

odd=[]

n=int(input("Enter The Limit "))

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

c=int(input())

if(c%2==0):

even.append(c)

else:

odd.append(c)

even.sort()

odd.sort()

print("Even Elements ",even)

print("Odd Elements ", odd)

**Output**

ODD AND EVEN ELEMENTS INTO TWO DIFFERENT LISTS

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit 6

1

4

7

3

5

6

Even Elements [4, 6]

Odd Elements [1, 3, 5, 7]

Aim : Python program to merge two lists and sort it.

Date: 10/01/2022

Program No.21

**Program**

print("MERGE TWO LIST AND SORT IT")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

a=[]

b=[]

c=[]

n=int(input("Enter The Limit Of The First List "))

m=int(input("Enter The Limit Of The Second List "))

print("Enter The Elements Of The First List")

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

a.append(int(input()))

print("Enter The Elements Of The Second List")

for j in range(1,m+1):

b.append(int(input()))

c=a+b

print("Merged List is : ",c)

c.sort()

print("After Sorting :",c)

**Ouput**

MERGE TWO LIST AND SORT IT

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit Of The First List 3

Enter The Limit Of The Second List 4

Enter The Elements Of The First List

1

3

4

Enter The Elements Of The Second List

5

6

4

5

Merged List is : [1, 3, 4, 5, 6, 4, 5]

After Sorting : [1, 3, 4, 4, 5, 5, 6]

Aim : Python program to sort the list according to the second element in sublist.

Date: 10/01/2022

Program No.22

**Program**

print("SORT THE LIST ACCORDING TO THE SECOND ELMENT IN THE SUBLIST")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

a=[['A',34],['B',21],['C',26]]

for i in range (0,len(a)):

for j in range (0,len(a)-i-1):

if(a[j][1]>a[j+1][1]):

temp=a[j]

a[j]=a[j+1]

a[j+1]=temp

print("After Sorting")

print(a)

**Output**

SORT THE LIST ACCORDING TO THE SECOND ELMENT IN THE SUBLIST

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

After Sorting

[['B', 21], ['C', 26], ['A', 34]]

Aim : Python program to find the second largest number in a list using bubble sort.

Date: 10/01/2022

Program No.23

**Program**

print("SECOND LARGEST ELEMENT IN THE LIST USING BUBBLE SORT")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

a=[]

n=int(input("Enter The Limit "))

print("Enter The Elements Into The List")

for i in range(0,n):

a.append(int(input()))

print("Before Sorting :",a)

for i in range(0,n):

for j in range(n-1):

if(a[j]>a[j+1]):

temp=a[j]

a[j]=a[j+1]

a[j+1]=temp

print("After Sorting :",a)

print("Second Largest Element :",a[n-2])

**Output**

SECOND LARGEST ELEMENT IN THE LIST USING BUBBLE SORT

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit 6

Enter The Elements Into The List

4

5

8

3

7

9

Before Sorting : [4, 5, 8, 3, 7, 9]

After Sorting : [3, 4, 5, 7, 8, 9]

Second Largest Element : 8

Aim : Python program to sort a list according to the length of the elements.

Date: 10/01/2022

Program No.24

**Program**

print("SORT THE LIST ACCORDING TO THE LENGTH OF THE ELEMENTS")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

a=[]

n=int(input("Enter The Limit "))

print("Enter The Elements Into The List")

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

a.append(input())

print("Before Sorting :",a)

a.sort(key=len)

print("After Sorting :",a)

**Output**

SORT THE LIST ACCORDING TO THE LENGTH OF THE ELEMENTS

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit 5

Enter The Elements Into The List

car

Bike

George

Dijo

Goutham

Before Sorting : ['car', 'Bike', 'George', 'Dijo', 'Goutham']

After Sorting : ['car', 'Bike', 'Dijo', 'George', 'Goutham']

Aim : Python program to find the union of two lists.

Date: 17/01/2022

Program No.25

**Program**

print("UNION OF TWO LISTS")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

a=[]

b=[]

n=int(input("Enter The Limit Of The First List "))

m=int(input("Enter The Limit Of The Second List "))

print("Enter The Elements Of The First List")

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

a.append(int(input()))

print("Enter The Elements Of The Second List")

for j in range(1,m+1):

b.append(int(input()))

c=list(set().union(a,b))

print("Union Of Two List : ",c)

**Output**

UNION OF TWO LISTS

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit Of The First List 2

Enter The Limit Of The Second List 3

Enter The Elements Of The First List

3

5

Enter The Elements Of The Second List

2

6

7

Union Of Two List : [2, 3, 5, 6, 7]

Aim : Python program to find the intersection of two lists.

Date: 17/01/2022

Program No.26

**Program**

print("INTERSECTION OF TWO LISTS")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

a=[]

b=[]

n=int(input("Enter The Limit Of The First List "))

m=int(input("Enter The Limit Of The Second List "))

print("Enter The Elements Of The First List")

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

a.append(int(input()))

print("Enter The Elements Of The Second List")

for j in range(1,m+1):

b.append(int(input()))

c=[i for i in a if i in b]

print("Intersection Of Two List : ",c)

**Output**

INTERSECTION OF TWO LISTS

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit Of The First List 2

Enter The Limit Of The Second List 3

Enter The Elements Of The First List

3

4

Enter The Elements Of The Second List

3

6

7

Intersection Of Two List : [3]

Aim : Python program to create a list of tuples with the first element as the number and second element as the square of the number.

Date: 17/01/2022

Program No.27

**Program**

print("FIRST ELEMENT AS THE NUMBER AND SECOND ELEMENT AS THE SQUARE OF THE NUMBER")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

n=int(input("Enter The Lower Range "))

m=int(input("Enter The Upper Range "))

a=[(x,x\*\*2) for x in range(n,m+1)]

print(a)

**Output**

FIRST ELEMENT AS THE NUMBER AND SECOND ELEMENT AS THE SQUARE OF THE NUMBER

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Lower Range 2

Enter The Upper Range 5

[(2, 4), (3, 9), (4, 16), (5, 25)]

Aim : Python program to find all numbers in a range which are perfect square and sum of all digits in the number is less than 10.

Date: 17/01/2022

Program No.28

**Program**

print("PERFECT SQUARE AND SUM OF ALL DIGITS IN THE NUMBER IS LESS THAN 10")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

n=int(input("Enter The Lower Range "))

m=int(input("Enter The Upper Range "))

a=[]

a=[i for i in range(n,m+1) if(int(i\*\*0.5))\*\*2==i and sum(list(map(int,str(i))))<10]

print(a)

**Output**

PERFECT SQUARE AND SUM OF ALL DIGITS IN THE NUMBER IS LESS THAN 10

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Lower Range 20

Enter The Upper Range 80

[25, 36]

Aim : Python program to find the cumulative sum of a list where the ith element is the sum of the first i+1 element from the original list.

Date: 17/01/2022

Program No.29

**Program**

print("CUMULATIVE SUM")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

a=[]

n=int(input("Enter The Limit "))

for i in range(0,n):

num=int(input())

a.append(num)

b=[sum(a[0:i+1]) for i in range(0,len(a))]

print("The Original List Is : ",a)

print("The New List Is : ",b)

**Output**

CUMULATIVE SUM

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit 3

4

6

7

The Original List Is : [4, 6, 7]

The New List Is : [4, 10, 17]

Aim : Python program to generate random numbers from 1 to 20 and append them to the list.

Date: 21/01/2022

Program No.30

**Program**

print("RANDOM NUMBER GENERATION")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

import random

a=[]

n=int(input("Enter The Limit "))

for i in range(n):

a.append(random.randint(1,20))

print("Randomised listis : ", a)

**Output**

RANDOM NUMBER GENERATION

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit 10

Randomised listis : [14, 5, 11, 2, 13, 2, 16, 3, 9, 18]

Aim : Python program to sort a list of tuples in increasing order by the last element in each tuple.

Date: 21/01/2022

Program No.31

**Program**

print("SORT A LIST OF TUPLES IN INCREASING ORDER BY THE LAST ELEMENT IN EACH TUPLE")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

#a=input("Enter a list of tuples:")

a=[(1,2),(89,20),(1,1),(10,3)]

print("Before Sorted : " +str(a))

n=len(a)

print(n)

for i in range(0,n):

for j in range(0,n-i-1):

if(a[j][-1]>a[j+1][-1]):

temp=a[j]

a[j]=a[j+1]

a[j+1]=temp

print("Sorted : " +str(a))

**Output**

SORT A LIST OF TUPLES IN INCREASING ORDER BY THE LAST ELEMENT IN EACH TUPLE

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Before Sorted : [(1, 2), (89, 20), (1, 1), (10, 3)]

4

Sorted : [(1, 1), (1, 2), (10, 3), (89, 20)]

Aim : Python program to swap the first and last value of a list.

Date: 21/01/2022

Program No.32

**Program**

print("SWAP FIRST AND LAST VALUE OF A LIST")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

a=[]

n=int(input("Enter The Limit "))

print("Enter The Elements")

for i in range(0,n):

b=int(input())

a.append(b)

temp=a[0]

a[0]=a[n-1]

a[n-1]=temp

print("New List is : ",a)

**Output**

SWAP FIRST AND LAST VALUE OF A LIST

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit 5

Enter The Elements

3

5

6

12

34

New List is : [34, 5, 6, 12, 3]

Aim : Python program to remove duplicate items from a list.

Date: 21/01/2022

Program No.33

**Program**

print("REMOVE DUPLICATE ITEMS FROM A LIST")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

a=[]

n=int(input("Enter The Limit Of The List "))

print("Enter The Elements Of Thes List")

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

a.append(int(input()))

newlist=[]

for i in a:

if i not in newlist:

newlist.append(i)

print("Non-Duplicate List is :")

print(newlist)

**Output**

REMOVE DUPLICATE ITEMS FROM A LIST

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit Of The List 5

Enter The Elements Of Thes List

3

3

6

7

6

Non-Duplicate List is :

[3, 6, 7]

Aim : Python program to find the fibonacci series without using recursion.

Date: 21/01/2022

Program No.34

**Program**

print("FIBONACCI SERIES WITHOUT RECURSION")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

def fibonacci(a,b,n):

for i in range(2,n):

c=a+b

a=b

b=c

print(c)

a=0

b=1

n=int(input("Enter The Limit"))

print(a)

print(b)

fibonacci(a,b,n)

**Output**

FIBONACCI SERIES WITHOUT RECURSION

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit5

0

1

1

2

3

Aim : Python program to find factorial of a number without using recursion.

Date: 21/01/2022

Program No.35

**Program**

print("FACTORIAL OF A NUMBER WITHOUT RECURSION")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

def factorial(n):

f=1

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

f=f\*i

print("Factorial of ",n," = ",f)

n=int(input("Enter The Number"))

factorial(n)

**Output**

FACTORIAL OF A NUMBER WITHOUT RECURSION

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Number5

Factorial of 5 = 120

Aim : Python program to check whether the string is palindrome or not

Date: 21/01/2022

Program No.36

**Program**

print("STRING PALINDROME OR NOT")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

def stringpalindrome(str1):

strrev=""

for i in str1:

strrev=i+strrev

if str1==strrev:

print(str1," Is Palindrome")

else:

print(str1," Is Not Palindrome")

str1=input("Enter The String ")

stringpalindrome(str1)

**Output**

STRING PALINDROME OR NOT

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The String ada

ada Is Palindrome

Aim : Python program to find binary equalent of a number without using recursion.

Date: 21/01/2022

Program No.37

**Program**

print("BINARY EQUALENT OF A NUMBER")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

def binary(n):

binary=[]

while(n>0):

digits=n%2

binary.append(digits)

n=n//2

binary.reverse()

print("Binary Equivalent of is :")

for i in binary:

print(i,end=" ")

n=int(input("Enter The Number"))

binary(n)

**Output**

BINARY EQUALENT OF A NUMBER

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Number45

Binary Equivalent of is :

1 0 1 1 0 1

Aim : Python program to find all numbers which are odd and palindrome between a range of numbers without using recursion.

Date: 21/01/2022

Program No.38

**Program**

print("ODD AND PALINDROME BETWEEN A RANGE OF NUMBERS WITHOUT RECURSION")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

def oddpal(n,m):

for i in range(n,m):

rev=0

num=i

while(num>0):

r=num%10

rev=rev\*10+r

num=num//10

if((rev==i)and(i%2!=0)):

print(i)

n=int(input("Enter The Lower Limit"))

m=int(input("Enter The Upper Limit"))

oddpal(n,m)

**Output**

ODD AND PALINDROME BETWEEN A RANGE OF NUMBERS WITHOUT RECURSION

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Lower Limit4

Enter The Upper Limit100

5

7

9

11

33

55

77

99

Aim : Python program to find the factorial of a number using recursion.

Date: 21/01/2022

Program No.39

**Program**

print("FACTORIAL OF A NUMBER USING RECURSION")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

def fact(n):

if n==1:

return 1

else:

return(n\*fact(n-1))

n=int(input("Enter The Number "))

f=fact(n)

print("Factorial of ",n," = ",f)

**Output**

FACTORIAL OF A NUMBER USING RECURSION

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Number 8

Factorial of 8 = 40320

Aim : Python program to find the fiboncacci series using recursion.

Date: 21/01/2022

Program No.40

**Program**

print("FIBONACCI SERIES USING RECURSION")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

def fibonacci(n):

if n==0:

return(0)

elif n==1:

return(1)

else:

return(fibonacci(n-1)+fibonacci(n-2))

n=int(input("Enter The Limit "))

j=0

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

print(fibonacci(j))

j=j+1

**Output**

FIBONACCI SERIES USING RECURSION

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit 10

0

1

1

2

3

5

8

13

21

34

Aim : Python program to find sum of elements in a list using recursion.

Date: 21/01/2022

Program No.41

**Program**

print("SUM OF ELEMENTS OF A LIST USING RECURSION")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

def sumlist(a,n):

if n==0:

return(0)

else:

return(a[n-1]+sumlist(a,n-1))

a=[]

n=int(input("Enter The Limit "))

print("Enter The Elements in the List")

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

a.append(int(input()))

print("The List Elements are : ",a)

suml=sumlist(a,n)

print("Sum of List Elements = ",suml)

**Output**

SUM OF ELEMENTS OF A LIST USING RECURSION

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Limit 4

Enter The Elements in the List

6

3

4

5

The List Elements are : [6, 3, 4, 5]

Sum of List Elements = 18

Aim : Python program to find binary equivalent of number using recursion.

Date: 21/01/2022

Program No.42

**Program**

print("BINARY EQUALENT OF A NUMBER USING RECURSION")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

binarylist=[]

def binary(n):

if n==0:

return binarylist

digits=n%2

binarylist.append(digits)

binary(n//2)

n=int(input("Enter The Number "))

binary(n)

binarylist.reverse()

print("Binary Equivalent of is :")

for i in binarylist:

print(i,end=" ")

**Output**

BINARY EQUALENT OF A NUMBER USING RECURSION

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Number 34

Binary Equivalent of is :

1 0 0 0 1 0

Aim : Python program to find the number is prime or not using recursion.

Date: 21/01/2022

Program No.43

**Program**

print("IF A NUMBER IS PRIME OR NOT USING RECURSION")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

def prime(n,div=None):

if div is None:

div=n-1

while div >=2:

if(n%div==0):

print(n," is Not Prime")

return False

else:

return(prime(n,div-1))

else:

print(n," is Prime")

return True

n=int(input("Enter The Number "))

prime(n)

**Output**

IF A NUMBER IS PRIME OR NOT USING RECURSION

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The Number 13

13 is Prime

Aim : Python program to find the LCM of 2 numbers using recursion.

Date: 21/01/2022

Program No.44

**Program**

print("LCM OF TWO NUMBERS USING RECURSION")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

def findlcm(a,b):

findlcm.multiple=findlcm.multiple+b

if((findlcm.multiple%a==0)and(findlcm.multiple%b==0)):

return findlcm.multiple

else:

findlcm(a,b)

return findlcm.multiple

findlcm.multiple=0

n1=int(input("Enter The First Number "))

n2=int(input("Enter The Second Number "))

if(n1>n2):

lcm=findlcm(n2,n1)

else:

lcm=findlcm(n1,n2)

print("LCM of ",n1," & ",n2," = ",lcm)

**Output**

LCM OF TWO NUMBERS USING RECURSION

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The First Number 12

Enter The Second Number 34

LCM of 12 & 34 = 204

Aim : Python program to find the GCD of the number using recursion.

Date: 21/01/2022

Program No.45

**Program**

print("GCD OF TWO NUMBERS USING RECURSION")

print("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*")

def findgcd(a,b):

if(b==0):

return a

else:

return (findgcd(b,a%b))

n1=int(input("Enter The First Number "))

n2=int(input("Enter The Second Number "))

gcd=findgcd(n1,n2)

print("GCD of ",n1," & ",n2," = ",gcd)

**Output**

GCD OF TWO NUMBERS USING RECURSION

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Enter The First Number 12

Enter The Second Number 21

GCD of 12 & 21 = 3

Aim: Python program to print the prime numbers in a range

Date: 21/01/2022

Program No.46

**Program**

**Output**