

## LABORATORY WORK BOOK

Name of the Student Muhd +auzan Zonaib							Roll Number							
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	Exercise Number		Aim/ Preparation	Algorithm / Performanc	Source Code Calculations and Graphs		Program Execution  Results and Error  Analysis		37.0	Viva - Voce	ST.	Total		
			4	asamo4 with		4					4	- 1	20	
1	2-1	Add 2 Matrices;	4	-	U	4		4		100	4	1	0	
2	2.2	Multiply 2 Matrice	1	an'i fibb	D 3/8	DIA"			19	1 17				
3	2.3	Transpose of matrix									y 35	3 3	1	
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Signature of the Student

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2. Matrix operations

2.1 Add two Matrices

Given two matrices

the sum of two
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Griven two matrices x and y, the task is to compute the sum of two matrices and fun point it in python  $R_1 = int$  (input ("Enter the number of nows in a matrix: "))  $C_1 = int$  (input ("Enter the number of columns in a matrix: "))  $R_2 = int$  (input ("Enter the number of nows in a matrix: "))  $C_2 = int$  (input ("Enter the number of nows in a matrix: "))

if  $R_{11} = R_2$  or  $C_{11} = C_{22}$ :

Point ("matrix addition is not possible")

else "

Motoix 1 = []
Motoix 2 = []

point ("Enter the elements into materix (! ")
for i in mange (Ri):

HOW = []

for j in range (e1):

How append (in+ (input ())).

matrix 1. appoind (now)

print (matrix i)

point ("Enter elements into matrix 2: ")

for i in mange (R\_):

40W - [3

for j in range ((2)
now append (int(input())

2/16 matrix 2-appoind (now)

print (marto 1x2)

mesult = [3]

point ("Addition of two matrix: In")

tox 1 in marnge (R1):

now = [3]

tox j in marnge (C1):

now. append (matrix: [i] [i] + matrix 2 [i] [j])

mesult. append (mous)

point (nesult)

culput: Enter the value of m:3

Enter the value of n:3

X = [(1,2,3].[4,5,6].[4,8,9]]

X = [(9,8,4),[6,5,4],[3,2,1]]

2.2 Multiply two matrices : Given two matrices x and y, the task is to compute the multiplication of two motices and then point it-Bi = Int Conput ("Errler the no. of Hows in a matrix : C1 = Int (imput ("finter the no. of columns in a matrix; 1()) R2 = int Cinput C"forter the no. of nows in a marker ? (( in cz = int (input ("forter the no. of columns in a materix:")) if (11 = Rz: (gmol) broggo work print ("mateix multiplication is not possible"). (Hurse) tring else : matrin = [] 3/16 matoix = []

```
point ("forter the elements into motorx 1; "))
for i in mange (RI): I and to make any form
    rg & wor
    fox j in Honge (CI):
      How append (in+ (input ())
mateix, appoint crow)
point (matrix )
 point (" Enter elements into mateix 1: ") and from
 for 1 in range (R). " In silver site which when
       53 = won
      for in range (CL):
          How appoind (in+cinput ())
      matrix 2. append (How)
  point (matrix 2)
  Hesult = []
  point (" Hultiplication of two matrices: In ")
       in stange (R+)
  a ristorman = Et evert for on out when the frequent top . It
  tomp = 0 (c2):
          for K in Hange CRLD; start has
         temp+= [mateix1 [i][k] "mateix2 [k][i])
          slow append (temp)
  mesult. append (man)
     print (nesult)
```

4/16

```
outpot-
  (CF, 1) = X = C(F, 1), (C, F, 1) = X
  y = [[1,1,1,2], [6, 2, 3,6], [3,5,9,1]]
  [ [55,65,49,5],
    [37,68, 72, 12],
    [90,107,111,213]
  2.3 Transpose of a motrix:
   intenchanging nows an columns of a motorix to get its
   transpase. The falleng miletures and mentre bee
  R_= int Comput Confinter the no. of rows in a motion: "))

C_1 = IntCinput Confinter the no. of columns in a motion " "))
   matrix 1 = []
   print ("Enter the elements into matrix 1:")
                                       COM PROBLEM.
   for its in range (RI):
     C] = NOTS
     for j in nange (CCI):
   How I mow appoind Cint (input ())
mateix 1. append Cnow
   print (matrix 1) of tubery thousands latet not is horizon
   for i in range (Ci):
        70w = C3
        for sin Hange [Ri]:
           How appoind (matrix ([]][i])
       mateix 2 . appoind Chow
    print (matrix 2)
                          5/16
```

output

[[12],[3,4],[5)6]]

then the teamspace of the given mater will be

[[1,3,5],[2,4,6]]

2.4 Matrix products

Motix product problem we solve using tist comprehension as a potential standard to the conventional loops. Iterate and find the product of the nested list and at the ond return the cumulative product using function.

det pood (val): or value of the set and policy of columns in

for ele in val;

res = ele

return ses

test list = [[1,4,5], [7,3], [4], [46, 7,3]]

point ("the original list: "+ str (test list))

print cu the total element product in lists is: " + str (no)).

6/16