Netaji Subhash Engineering College
Department of Computer Science & Engineering
B. Tech CSE 2nd Year 3rd Semester
2021-2022

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Name of the Course: IT Workshop

Course Code: PCC-CS393

Name of the Student: Debaditya Ghosh

Class Roll No.: 174

University Roll No.:

Date of Experiment: 03.12.2021

Date of Submission: 04.12.2021

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▪ **Assignment No.: 27**

Problem Statement: Write a program to find the maximum and minimum of a list of numbers without using built-in functions.

Python Code:

```
 l1 = [5,15,20,16,30,25,21]
min_ele=l1[0]
max_ele=l1[0]
for i in range (1, len(l1)):
   if l1[i]<min_ele:
      min_ele=l1[i]
   if l1[i]>max_ele:
      max_ele=l1[i]
print ('Minimum element in the list' ,l1,'is',min_ele)
print ('Maximum element in the list' ,l1,'is',max_ele)
```


Sample Output(s):

Minimum element in the list [5, 15, 20, 16, 30, 25, 21] is 5
Maximum element in the list [5, 15, 20, 16, 30, 25, 21] is 30

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- **Assignment No.: 28**

  Problem Statement: Write a program to multiply two matrices as nested lists.

  Python Code:

```
A= [[2,4,7],
    [4,5,8],
    [3,2,1]]

B= [[1,3,5,2],
    [3,4,7,8],
    [4,2,5,6]]
result= [[sum (a*b for a, b in zip (A_row, B_col))
    for B_col in zip(*B)]
        for A_row in A]
for r in result:
   print(r)
```

  Sample Output(s):

  [42, 36, 73, 78]
  [51, 48, 95, 96]
  [13, 19, 34, 28]

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- **Assignment No.: 29**

  Problem Statement: Write a program to find the union of two lists.

  Python Code:

  ```
  def Union (L1, L2):
      L3=L1+L2
      return L3

  #Driver code
  L1= [2,5,10,20,74,45,62,50,32]
  L2= [20,24,31,38,39,75,15,72,40]
  print (Union (L1, L2))
  ```

  Sample Output(s):

  [2, 5, 10, 20, 74, 45, 62, 50, 32, 20, 24, 31, 38, 39, 75, 15, 72, 40]

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- **Assignment No.: 30**

   Problem Statement: Write a program to concatenate two lists using list comprehension.

   Python Code:

   **L3= [character for character in 'I am Debaditya Ghosh a student of CSE at NSEC']
   print(L3)**

   Sample Output(s):

   **['I', ' ', 'a', 'm', ' ', 'D', 'e', 'b', 'a', 'd', 'i', 't', 'y', 'a', ' ', 'G', 'h', 'o', 's', 'h', ' ', 'a', ' ',
   's', 't', 'u', 'd', 'e', 'n', 't', ' ', 'o', 'f', ' ', 'C', 'S', 'E', ' ', 'a', 't', ' ', 'N', 'S', 'E', 'C']**

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▪ **Assignment No.: 31**

Problem Statement: Write a program to create a list from two given lists 'list 1' and 'list 2' of numbers such that it contains the numbers that are present in 'list 2' but not in 'list 1'.

Python Code:

```
L1= [1,3,5,7,9,11]
L2= [15,17,19,21,23,25]
L=L2
print(L)
```

Sample Output(s):

[15, 17, 19, 21, 23, 25]

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- **Assignment No.: 32**

  Problem Statement: Write a program to find the distinct pair of numbers whose product is odd from a list of integers.

  Python Code:

```
def odd_product(nums):
   for i in range(len(nums)):
     for j in range(len(nums)):
        if i! = j:
           product=nums[i]*nums[j]
           if product & 1:
              return True
              return False
S1= [2,4,6,8]
S2= [1,6,4,7,8]
print (S1, odd_product(S1))
print (S2, odd_product(S2))
```

  Sample Output(s):

  [2, 4, 6, 8] None
  [1, 6, 4, 7, 8] True