

LABORATORY WORK BOOK

Nan	ne of the	Student Muhammad	fauzar	zoha	ib		- Fresh		
Class CSE - C Semester 1						Roll Number			
Course Code ACS DO6 Course Name PPS Laboratory						239	5 1 A	0 50	5- 4
Nan	ne of the	Course Faculty DX M- M mber 02	ladhusu Week	dhan	neddy 02	3.500	Faculty ID	TARE IC	1 88
S. No.	Exercise Number	EXERCISE NAME	MARKS AWARDED						
			Aim/ Preparation	Algorithm / Procedure Performance in the Lab		March Street, Square	Program Execution Results and Error Analysis	Viva - Voce	Total
						- Calculations and Graphs			
			4			4	4	4	20
1	2.1	contains puplicate	ч		4	4	4	4	20
2	2.2	Romon to Integer				Lear	8,8,31	FIRE	100
3	2-3	Two sum		1	Consultation	ar he topack	SERVICE PROS	2 300	60
4	2.4	plus one						hayk	10
5	2.5	Majarity element		2 44 64		MD-200		321	
6	2.6	Richest customer with				H.	grine of	nomi	9.
7	2-4	Fizz Buzz	l'a	dolar	o separa	980 3	CHAMINET	demy	19 -6
8	2.8	step 2 N				0110	2. 1.3	V	
9	2.9	Running the sum of 10 Array.			130			-7.16	9
10	2.10	Remove element.				1000	to all of the same	200	
11						. 3.	2 12		
10						13	1		

Signature of the Faculty

storilard estate

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1 contains Duplicate
a- Given an integer away nums, return true if any value appears
  at least twice in the away, and metern false if every element
  is distinct
  code:-
  def contains_duplicate (nums):
       unique_nums = set ()
       for num in nums:
           if nums in unique_nums:
                octum Fore
           unique. nums . add (num)
            Hetwin False
  nums = [1, 2, 3, 4, 5]
  point (contains_duplicate (nums))
  output:-
  False.
  Roman to integer
By Roman numerals one represented by seven different symbols
   1, v, x, L . C, D and M
   code:-
   def romanTaInteger (self):
                : 59,
                 10.
                 : 100.
                 : 500,
```

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: 1000,

```
3110 00/15
 date to $0 ms company does marked prompt and many and not to
      tox i in stange (tem (self));
             if 1 < len(self) - 1 and to [self [i]] < m [str+i];
                  ans -= m [self(i]]
             clse:
                ans + = m [self[1]]
                                               . Cotto (b) since play lot
          return ans
      S= Int ("Enter your roman number: ") 1 12-3 2 1676
      (e) Intoframors) tried
                                             Shiples summers
      output ?
     Enter your roman number: 100
   3. Two Sum
   of Given an array of integers nums and an integer target
      return indices of the two numbers such they add up to target
                                                           Hoping
      code-
     def two Sum (nums, twiget):
         m = E 3
                                                 etamorela phisojem
for 1, x in enumerate counsilistes or sale po server to movie a
    and istaget - x or enough had because and at because
             if y in m
                 Heturn [m[y],i]
                                      output: [0:2] -
                                      Winer James - phaging Fil
             i= [x] m
     nums = [12,5,-3,4
      tanget = 9
     print (two Sums (nums, tanget).
```

```
plus one
ar you are given an array, where each digits [i] has the ith digit
  of the integer. Large integer does not contain any leading o's
  increment the large integer by one and next the return the
   resulting of aracy.
   code :-
   det plusone (digits):
      1+ digits [-1] < 9:
          digits E-13 += 1 (" : marier measure map 15/14) Int
          Hetwor digits
                                            (18) intofactors) to sa
      elif lem (digits) == 1 and digits [6] = = 9;
                                                           shapuo
           return [1,0]
       else'.
           digits [-1] =0
           digits [or -1] = pubone (digits (o: -1])
   digita e [8] registi mo bour emure enegatori de proceso mo mercio o
   point (plus one (digits)) but and more and to assist much
    output:
5. Majority elements
 a Given of array of size n, netwon the majority element. The majority
    element is the element that appears more than In/2j times
    code:-
             - L-Inl -therho
   def majority-element (nums):
         count = 0
         candidate = Mone
        for num in nums;
```

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if count = = 0:

candidate = num count 4's CE st num as condidate cleaning as Yours: [3,2,3] : get statistich at 1 4 "ma(4" a - (1) manne print (majority -element (nums)) output: - I (as a state of the some of the continue of the continue 132363 6. Richest customen wealth at you are given an mxn integer gold account where accounts (1)(1) is the amount of money the ith constoner. has in the jth bounds. The nichest customen is the customen that has the maximum wealth. codes 10 0 1 1 11 2 3 tox in in sange (lon (accounts)): count =0 for in staringe (len faccounts [1])): count += accounts total Hell murton tel ansatra "if (ount > max; max = count of the select self state to happing fact or

neturn man

point (maximum Wealth (accounts)).

14 .

((a) STUBERIED FREE

Fizz Buzz Criven an integer n, seturn a string array answer (2-indexed) where arower [i] == "fizz Buzz" if I is divisible by 3 and 5. answer [i] = " Fizz" if i is divisible by s. answer (i) = = "Buzz" if i is divisible by 5" answer (i) = = 1 (as a string) if none of the conditions are true. code: of leschest customen wealth det fizzauzz (n): from bist registri ma me monip she nou so settlern 2 list & Edward of money the the control of the if i %3 = =0 and 1%5 = = 0: Hetwn-list. append ("fizzBuzz")

elif 17.3 = = 0: netwon-list append (" fizz") allendamenten in

elit 17.5 == 0: return-list appoind ("Buzz")

return-list append (sto(i))

neturnalist return list

n = int Cinput (" Enter the value of n; ")) print (fizz Buzz (n)). MATTER THE SE

(2,93). (2111 (4.2)) + store output :-Enter the value of n: 15 Comment that make my [11, 12], 'fizz', 'u', 'Buzz', 'fizz', '7', 8', 'fizz', Buzz', 'fizz , 13', 14', fizz Buzz'].

```
8. Number of steps to reduce a number to zero.
  Oriven a Integer num, vieturn the number of steps to
  rieduce it to 2010 1 most must . [1] must primme an yearen
                                  some prome primer.
  code :-
  def step 2N (n):
      count = a
      while (n):
          if m/2==0;
                       [1-1] more stormer : [1] comera
             count + = 1
                                        CHEN MEDICA
             n= n/2
          elsein
                                        LAW ELL . OTHER
             count + = 1
                                  (Come) me stimen ) may
            m = n-1
                                                 -s roging
      metaun count
                                           ·[01 . 2 . 5 . 11]
   n= 14
   paint (step2N(n))
                                          - Jasmala grows 01
   print (step 2N(n))
   7 = 123
   paint (step2N(n)). - state of some of lev to somewho le
   output :-
   6
   12.
```

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9. Running sum of 1-0 Array. Solve at again to endorsely
  Given an array nums we define a running sum of an
   array as running sum (i) - sum (nums (a) -num (1)) . Hetwin the
   running sum of nums
   code:-
                                             sen vegets lap
   def sunning sum (nums):
                                              b I launs
       for i in mange (1, lem (nums)):
           nums (i] = numsli]+ num[1-1]
      setwin nums
   mams = [1,2,3,4]
   point (Hunning sum (nums))
   output :-
   [1,3,6,10].
                                            ((a) Insophio thisq
10. Remove element.
   Given an integer away nums and integer val, Hemore
  all occurrence of val in nums in-place. (a) beginning
  code:
                                                   output in
  def Hemove element (nums, val):
      1 = 0
      while (ix lon (nums):
          if Chums [i] = = val ):
            nums pop (i)
```

else :

nums = [3,2,2,3]

val = 2

k = (nemove element (nums, val))

point (k)

point (nums [:k])

output:
2
[3,3].

Author 3/4/24