TASK: 2 SISPLEMENT CONDITIONAL, CONTROL & LOOPING DATE: STATEMENTS 2.1 FACTORIAL OF A NUMBER AIM:-Calculate factorial of a number using while print (" (ount of teen - requeted digits: ", count of ALGORITHM :n = int (input (" fitter the number: " trots - 1 post Step 2:- Input a number num Step 3:- Initialize factoraid = 1 Step 4: - Repeat fox i from 1 to num is · multiply fectorial = factorial xi Step 5:- End the loop Step 6:- Display the value of factorial Step 7:- 8top non-repeated Sample Input: Enter a number: 5 (between a number :5 Sample Output :-Factorial of 5 is 120

RESULT:Thus a Python Progream to calculate factorial of a number

num = int (input ("Enter a number:")) Priogram: factorial = 1 Prient ("Factoriel of", num, "is", factorial) 1 = 1 while i z = num; factorial * = i Print (" Factorial of ", nurs; "is", factorial) STAU HTIME

TASK: 2 DATE:

AI

loop

4

2.2 COUNTING THE NOW- REPENTED DIGITS IN A GOVEN White is program to find the court of non-responded digita in a given number N. The number will be passed to the program as an unput of type the ALGORITHM:-Step 1: Storet Step 2 - Input a number num from the user. step 3: - Convert the number wints a strang-num-str to early acces each digit. Step 4:- gnitialize a variable count = 0 to More the number of non-suppeated digits. Step 5:- Repeat for each digit in num-ser: check if the count of digit in num-str is equal . If yes, unverement count by 1. Step 6:- After loop ends, display count as the count of non-repeated oligits. Step 7:- Stop Sample Input: Enter a number : 12341 Sample Output: Count of non-repeated digits: 3 Thus a Python Program to count the non-repeated digits is compiled and executed successfully.

PROGRAMS: 5.2 Cou hum = 30+ (9 nput ("Enter a number:")) num_str = str(num) AIM:-Count = 0 for digit an num-str: if num-str. count (digit) == 1: number unput Prent (" Court of non-repeated dignits:", court ALGO n = int (input (" Finter the number:")) see see toput a number num count = [0] * 10 /= Liverator = Elastin = 3 900 to for d in str(n); Count [int(d)] + = 1 e multiply fathers non-repeated =0 step si god the loop for i in count; possess at pulgare as as it if i = = 1; non- repeated += I Print (non-repeated) soter a number : 5 Padroscal of 5 in 120

RESULT: Thus a python Preogram to point multiplication table of a number up to 10 is compiled and executed

2.3 PROGRAM:num = int (input (" Enter a number: ")) Prant (" Multiplication table of", num) Azm: for i un scarge (1,11):

Print (num, "x", i, "=", num +i) table ALGOR n = int(input ()) count = [0] *10 step 11- Stort Too do in retronding reduced a dugat - se gots Count [int (d)] += 1 non- repeated = 0 . Laid dos nome plikes d for i un dount in a sallotting ... number of nen supeated digit: = = indiser: non-Aepeated += 1 count of digit in Print (non-repeated) num-ser in equal to t. . I go wood tower out by 1. step 6:- After Loop ends, display court as 16:0 u I non- Repeated daily. 9018 -: + 9710, Coople Soont :-Linton a number : 12341 sount of non-repeated digos: 3

ATM: An Whate a program to display if the number is a number whose square ends with the number at self. Step 1:- Start Step 2:- Input a number num from the wor. Step 3:- Calculate the square of the number: Step 3:- Convert both square in num to strings Step 4:- Convert both square in num to strings Step 5:- check if the strung of square ends with the strung of num: of the strung of square ends with the square ends with the strung of square ends with the square ends with

Steps:-Stop

Input: Enter a number:25

Output:Automorphic

RESULT: Thus a progream to display if a number is automorphic or not is compiled and executed successfully.

PROOFFAM: 2.4 num = Int (input (" Enter a number: ")) square = num * num at que reducer so for AIM:num) % (10 # # len { An number rumb er temp = num Power = 1 while temp >0: Power = power * 10 temp = temp 1/10 if square % power == num: Pount (" Automorphic") else: The stends in the same. Print ("Not Automorphic") · Nevernent i by 1 End Loop ENCON Q YUMBEN:5 Multiplication Labor of 5 B3 1 4 3

2.5 Counting the Number of Praire Number in a AIM: write a program to find the count of the number of prime numbers in a specified scange ALGORITHM: Step 1: Stoort Stop 2: - Input the starting number 3 tart Step s:- Input the onding number and Stop 5: - Repeat for each number num forom stord to end: a) if num >1, then check if it is prime: ■ Set a flag to tome Repeat for each i from 2 to Journ: • if num = / • 9 = = 0; 9 is not prime · break the loop If no divisor is found, un crease prime-count by 1 Step 6:- After the loop ends, duplay prime-count PERFORMANCE (5) Step 7:- Stop RESULT AND ANALYSIS (5) VIVAVOCE (5) Sample Input: Enter the stoucting number: 10 OTAL (20)

Enter the Ending number: 20 NWITH DATE Number of Prime numbers in the range:4 Sample Output: a Program to court the number of LESULT: - Thus Preme numbers es compiled & executed succernfully.

PROURAMS! Start = int (input (" Enter the starting number:")) end = int (input (" Inter the ending number:")) Prime-court = 0 for num in grange (start , end +1): if num >1: for i in range (2, int (num ** 0-5)+1): . 1000 = = 0; mun of of the com step 30 Calculate of the number: man x else: Prime - court + = 1 Preint (" Number of prime numbers in the seange:" Prum e_ count) : while to General of born of the start is substantial · else, oldplay " Not Automorphic". Filter a nounber: 28

Automorphic

2.1