

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)
Dundigal, Hyderabad – 500 043

LABORATORY WORK SHEET

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	Dalle. & S. Indiana
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	c: CONTROL STRUCTURES

DAY TO DAY EVALUATION:

Preparation		Algorithm	Source Code	Program Execution	Viva	Total
	Preparation	Performance in the Lab	Calculations and Graphs	Results and Error Analysis		
Max. Marks	4	and water a	edana min	sats" in this	4	20
Obtained	4	4	4	4	4	20

Signature of Lab I/C

98/06/2022

START WRITING FROM HERE:

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DESTRUCTED TO SELECT TO A FOR THE PARTY TO THE
AIM: Design and develop an valgorithm to find the reverse of an integer number N and check whether it is
       palindrome or not. Implement a c program for the developed algorithm that takes an integer number
       as input and output the reverse of the same with
       suitable messages Ex: N: 2020, Reverse: 0202, Not a palindrome
PROGRAM;
                                               the lunter of talic hos
# include <stdio.h>
                                               include = marth-to =
void main()
                                      that mysine (that no inter);
   int n, rev=0, rem, m;
                                                 int dan line);
   printf ("Enter a number:");
                                                       O always Int
   scanf (".1.d", &n);
   m=n:
                                                           CHIEF BINE
   if (nc=99911 n>9999)
         print ("inter the degree and number of brings");
       printf ("Not a 4-digit number");
       exit(o);
                                               . with (whereast + rate)
   While (n1=0)
```

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rem = no/10;
      n=1110;
       rev = rev*10 + rem:
      if (m == rev)
         prints ("The given number -1-d is Palindrome", m);
       clse
         print f ("The given number-led is not Palindrome", m);
INPUT: Enter a number: 121
OUTPUT: The given number 121 is a palindrome
AIM: Draw the flowchart and write c program to
    compute sin(2) using Taylor series approximation
    given by sin(2)=x-(x3/31)+(x5/51)-(x4/71)+.... Compare
    the result with the built-in library function and
    print both the visuels with appropriate messages.
PROGRAM:
#1 include < stdio.h>
                                         The ready well-filled to
# include < math.h>
                                                 Charleng hall
float mysine (float x, intn);
 int fact (intn);
                                1 (" : todomin a pries", libera
 int main ()
                                       tine "pt" Ha.
 int a, n;
 float radires;
 print f ("Enter the degree and number of terms:");
 Scanf ["-1·d·1·d", 出文, 安内) guill ighter & tolk" 11 ing
 rad = (2*3/4)/180;
```

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res = mysine (rad,n);
printf ("my defined sine function (1-a) = 1-1", x, res);
print ( "using library function sine (1-d) = 1.f", x, sin(rad));
Mgetch ();
float mysine (floatx, intn);
                                            to all and the standards of the
 inti, sign = 1;
                                                    Abarrais Incil
 float sum = 0;
 for (i=1; i < pn; i+=2) le a chambant out militarique contra la
                           " zasepskom finalio – add architic
 sum = sum + sign*(pow(x,i) /fact(i));
 sign* = -1;
 1*int count, n=1, sign=1;
                                      The trems descended that
   for (count =1; (n<=10); count += 2)
    *res += sign* (pow(num, count)/factorial (count));
                    that a tendinalist in equipment permaneler is
   - h+=15
     sign = - 12 decom benefits of much think the breakers
    3*1
                                              In I no sultedizione
 return sum;
  int fact (into); " mere" " " dense production of inter planting
 if (n==0)
           Forth Carlot in the formation of the other in the extension of
  return 1;
  return n*fact(n-1);
                      Party is their apple touries of the
INPUT: Enter the degree and number of terms: 30
output: my defined sine function (30) = 0-523333.
        using library function sine (30) = 0.499770
```

```
AIM: Design and edevelop and algorithm and flowchart to vicad a 3 idigit number and which whether the
   given number us Armstrong or not. Write a c program
    to implement the same of also idisplay the winsting
    no-1/2 rectiveen 1 to 10001
PROGRAM:
                                  : (ahir ripoliti seneput trent
# include <stdio.h>
                                                in all a series
 int main ()
int num, original num, remainder, result = 0; 13 1000 11 11 11 11
printf ("Entera three-digit integer:");
Scanf (4.1.d4, 8 num); ((1)+1)+1 (1) (1) (1)
original-num = num;
                                   ls interesunt, no temports
while Conginal-num!=078
     11 remainder contains the last aigit
remainder = original-num 1-10;
result + = remainder * remainder * remainder;
 M remaining last digit from the original number
original_num 1=10;
                                                  Frank June
if (result == num)
   printf ("-1-d is an Armstrong number.", num); in ministration
else
   print f ("old is not an Armstrong number", num);
return o;
                                                     t. : While
INPUT: Enter a three digit number: 183
OUTPUT: 153 is an Armstrong number.
               my defined thin garrelian past observed
               where the are first with the state function of
```

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d. Design and dividop an algorithm for walualing the
    polynomial -1(x) = 04x4-1 03x3+0,x2+0,x2+00, for a given
    value of x sits co-refficients using Horner's method.
    Implement a cprogram for the same of execute the
    program for adifferent sets of values of 100-refficients 28x.
   11 Preprocessor directions
   # include < stdio.h >
   11 Main program
    main () &
   float coeff[10], x, fx =0;
    inti;
    printf ( "Garogram to evaluate the given polynomial f(x) =
                           a4x"+à3x3+9222+a,x'+a0for");
    printf ("Given value of a and the co-efficients using thomas's
                                                        method);
    printf("Enter the co-efficients (integer I float) of a given polynomial
                                  (ie., a o, aq, a, a a, a4 ··· "));
   for (1=0; 12=4; 1+t) {
    printf ["coeff ["10d] =",1);
    scanf ("itof", & coeff [i]);
   print+ ("Enter the value of a (integer or float)...:");
   scanf ("10+", 812)",
   for (1=4; 1>=0; 2-) §
   fiz =fxtx+coeff[i];
    printf ("f(1)f) =1.f", x /2);
```

INPUT: Enter the value of x (integer or float) a: 2 OUTPUT: 1(2.000000) = 0.000000 The first of a contract of and the second ing of beids: 1 - 24 - 2 - 1 - 4) JJ - 1 - 32 2 and the second the first of the state of the second of the of the state of th mark to a compart of the state (.p. x . + + 1 .ut = The standard and a graduate and making a transfer and off in the equal 16'-16 -1 1 x1 x Since the second second