Output:-

* * * * * * * * * Demonstration of data types * * * * * * * * *

Enter your roll number : 1788

Enter your name : Chinmay

Enter your mobile number : 9619

Enter your grade : A

Enter your address : aaa

Enter your percentage : 64.46

Your roll no is : 1788

Your name is : Chinmay

Your mobile number is : 9619

Your grade is : A

Your address is : aaa

Your percentage is : 64.46

PRACTICAL-1

```
printf("\n Enter your percentage :");
scanf("%f", &per);
printf("\n Your roll number is :%d", roll);
printf("\n Your roll name is %s", name);
printf("\n Your mobile number is : %ld", mob_no);
printf("\n Your grad is :%s", grad);
printf("\n Your address is : %s", add);
printf("\n Your percentage is :%f", per);
 getch();
}
```

550

PRACTICAL NO:- 2

AIM:- AREA OF A CIRCLE

SOURCE CODE:-

```
# Include <conio.h>
# Include <stdio.h>
  void main()
  {
      float pi = 3.141;
      float rad;
      float aoc;
      clrscr();
    printf("\n Enter the radius:");
    scanf("%f", &rad);
     aoc = pi * rad * rad;
  printf("\n The Area of circle is: %f", aoc);
    getch();
}
```

output:

Enter 1st number: 7
Enter 2nd number: 7
7

AIM :- TERNARY OPERATOR

SOURCE CODE :-

```
// ternary operator
#include <conio.h>
#include <stdio.h>
void main()
{
    int a,b,x;
    clrscr();
    printf("\n enter 1st num:", &a);
    scanf("%d",a);
    printf("\n enter 2nd name:", &b);
    scanf("%d",b);
    x= (a>B)? a=b;
    printf("%d",&x);
    getch();
}
```

CSO

Aim :- Write a C program on operator & expression

Theory :

Write a program to create a dynamic calculator

Algorithm:

step 1: Declare a variable name for first & second number as integer

step 2: Now use scanf function to receive input from the user

step 3: Now to add two numbers given by user use the expression num1, num2.

step 4: Now to subtract two no's given by user expression num1 - num2

step 5: Again use exp: num1 * num2 if user integer multiply the two inputs.

step 6: Use expression num1/num2 if user wish divide the two inputs.

step 7: Now use

ij code:

```
// dynamic Calculator
#include <stdio.h>
#include <conio.h>
void main()
{
    int num1, num2;
    float add, sub, mult, div;
    clrscr();
    printf("\n Enter first number: \n");
    scanf("%d", &num1);
    printf("\n Enter second number: \n");
    scanf("%d", &num2);
    add = num1 + num2;
    sub = num1 - num2;
    mult = num1 * num2;
    div = num1 / num2;
    printf("\n Addition of %d and %d is %f \n",
           num1, num2, add);
    printf("\n Subtraction of %d and %d is %f \n",
           num1, num2, sub);
    printf("\n Multiplication of %d and %d is %f \n",
           num1, num2, mult);
    printf("\n Division of %d and %d is %f \n", num1,
           num2, div);
    getch();
}
```

OUTPUT

Enter first number: 3

Enter second number: 3

Addition of 3 and 3 is 6.0000

Subtraction of 3 and 3 is 0

Multiplication of 3 and 3 is 9.0000

Division of 3 and 3 is 1.0000

PRACTICAL NO: 3

Aim:
1) Write a program to find whether enter year is leap year or not

source code:

```
#Include <stdio.h>
#include <conio.h>
void main()
{
    int n;
    clrscr();
    printf("enter a year\n");
    scanf("%d",&n);
    if(n%4==0)
    {printf("The year is leap year\n");}
    else
    {printf("The year not a leap year");}
    getch();
}
```

2) Write a program to find odd & even number

source code:

```
#Include <stdio.h>
#include <conio.h>
void main()
```

Output:

Enter a year
2004
The year is leap year.

21/01/2020

Output

Enter a number

8

Number is even

```
int n;
clrscr();
printf("Enter a number:\n");
scanf("%d",&n);
if(n%2==0)
{printf("Number is even\n");}
else
{printf("Number is odd");}
getch();
}
```

(iii) Write a program whether the entered character, vowel or consonant.

source code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
    char ch;
    clrscr();
    printf("Enter a letter:\n");
    scanf("%c",&ch);
    if(ch=='a'||ch=='e'||ch=='i'||ch=='o'||
    ch=='O')
    {
    printf("Enter letter is vowel");
    }
```

```
else
{
printf ("entered letter is consonent");
}
getch();
}
```

iv) write a program to find largest of three numbers

```
#include <stdio.h>
#include<conio.h>
void main()
{
    int a, b, c;
    clrscr();
    printf ("Enter three numbers");
    scanf ("%d, %d, %d", &a, &b, &c);
    if (a>b)
    {
      if (a>c)
      {
    printf("%d is greate number", a)
    }
    else
    {
    printf ("%d is greate no", c);
    }
```

Enter three number 3

4

1

f is greater

```
else
  }
  printf("%d is greater no.", b);
    getch();
}
```

write a program to demonstrate enter any 3 digit number from keyboard and print

```
#include<conio.h>
#include<stdio.h>
void main()
{
    int i;
    printf("enter digit");
    scanf("%d", &i);
     if(i==1)
    {
       printf("\n One");
    }
    else if(i==2)
        printf("\n two");
    }
    else if(i==3)
    printf("\n three");
     }
    else if(i==4)
    {
    printf("\n four");
```

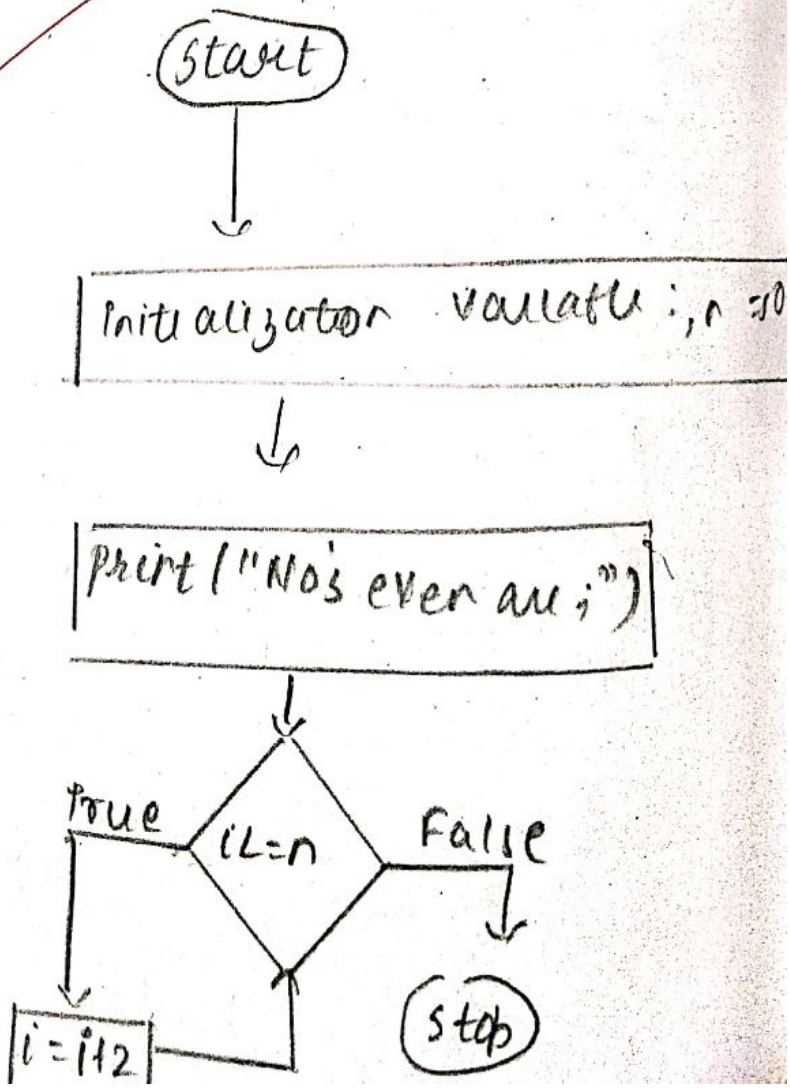
```
}
else if (i==5)
{
printf("\n five");
}
else if (i==6)
{
printf("\n six");
}
else if (i==7)
{
printf("\n seven");
}
else if (i==8)
{
printf("\n eight");
}
else if (i==9)
{
printf("\n Nine");
}
else
{
printf("wrong input")
}
getch();
```

21/01/2020

380.

output :- Print all even no's till 50
All even no's from 1 to 50 are

2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50



PRACTICAL - 6

Aim: Write a program to print even no's between 1 to 50 using while loop.

Code: // print even no using while loop.

```
# include <stdio.h>
# include <conio.h>
void main()
{
    int i,n;
    clrscr();
    printf("Print all even no's till:");
    scanf("%d",&n)
    printf(" All even no from 1 to %d are:\n",n);
    i=1;
    while(i<=n)
    {
        if(i<=n)
    {
        if(i%2==0)
        {
            printf("%d\n",i);
        }
        i++;
    }
    getch();
}
```

b) Check whether the given no is armstrong or not

-) code :- // armstrong or not

```
#include <math.h>
#include <conio.h>
#include <stdio.h>
void main()
{
    int i, num, origin, rem, n=0;
    float result = 0.0;
clrscr();
printf("\n Enter an integer : ");
scanf("%d", &num);
origin = num;
while (origin != 0)
{
    origin /= 10;
    ++n;
}
origin = num;
while (origin != 0)
{
    rem = origin % 10;
    result += pow(rem, n);
    origin /= 10;
}
if ((int) result == num)
{
```

```
printf("%d is an Armstrong no", num);
}
else
{ printf("%d is not an Armstrong no", num)
}
getch();
}
```

Output :- Enter any integer : 371
371 is an Armstrong no.

860

output :- Enter the value to be patterned : 1
Enter no of rows 4

1
2 3
4 5 6
7 8 9 10

c) Write a program to obtain the following output.

```
1
2  3
4  5  6
7  8  9  10
```

→ code →

```
// pattern printing
#include <stdio.h>
#include <conio.h>
void main()
{
  int i,j,n,t;
  clrscr();
  printf("\n enter the value to be patterned");
  scanf("%d",&t);
  printf("\n enter no of rows:");
  scanf("%d",&n);
  printf("\n");
  for(i=1;i<=n;i++)
  {
    for(j=1;j<=i;j++)
    {
      printf("%d\t",t);
      t++;
    }
    printf("\n");
  }
  getch();
}
```

PRACTICAL-5

Aim :- Program on arrays.

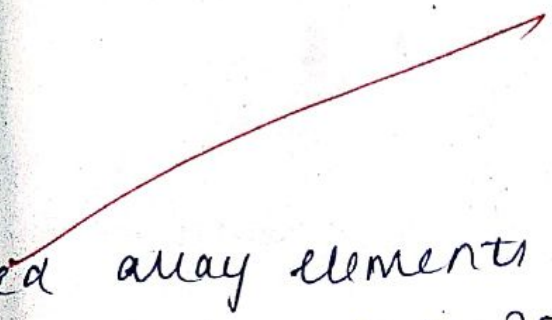
Program 1: Write a C program to find the su
5 no's (arrays)

```
#include<stdio.h>
#include<conio.h>
void main()
{
int i, num[5], sum=0;
clrscr();
printf("Enter the elements into array")
for(i=0; i<5; i++)
scanf("%d", &num[i]);
printf("\n entered array elements are");
for(i=0; i<5; i++)
printf("%d \t", num[i]);
for(i=0; i<5; i++)
sum= sum+num[i];
printf("\n sum of elements is : %d", sum);
getch();
}
```

output

Enter the elements into array:

4
5
6
7



entered array elements are: 3 4 5 6 7

sum of elements is: 25

Output

Enter the array no: 5
Enter the a[0] no of elements → 2
Enter the a[1] no of elements → 1
Enter the a[2] no of elements → 3
Enter the a[3] no of elements → 4
Enter the a[4] no of elements → 5

The largest no is → 5

Program 2: Write a C program to find the largest of the 10 no

```
#include<stdio.h>
#include<conio.h>
void main()
{
  int i, num[10], l;
  clrscr();
  printf("\n Enter 10 values in array:")
  for(i=0; i<10; i++)
scanf("%d", &num[i]);
  l=num[0];
  for(i=1; i<10; i++)
  l=num[0];
  for(i=1, i<10, i++)
  {
  if(l<num[i])
  l=num[i]
  }
printf("\n largest no is %d", l);
  getch();
}
```

34 Program: write a c program to find the no of positive no's in the array

```
#include<stdio.h>
#include<conio.h>
void main()
{
  clrscr();
  int i, num[10], p;
  printf("Enter the values into the array:");
  for(i=0; i<10; i++)
  scanf("%d", &num[i]);
  p=0;
  for(i=0; i<10; i++)
  {
  if(num[i]>0)
  {
  p=p+1;
  }
  }
printf("No of +ve values present in the given
  getch();
}
```

Output

Enter the values in the array

2
3
4
5
6
7
8
9

No of odd numbers is 5

Program 4: write a program to find the odd no available in an array

```
#include<stdio.h>
#include<conio.h>
void main()
{
  clrscr()
  int i,num[10];
  printf("enter the values into array:")
  for(i=0;i<10;i++)
scanf("%d",&num[i]);
  p=0
for(i=0;i<10,i++)
{
if(num[i]%2==1)
{
p=p+1
}
}
printf("\n no of odd no is %d",p);
getch();
}
```

SNO

Program 5

```
#include <stdio.h>
#include <conio.h>
void main()
{
clrscr();
int i, j, num[5], t;
printf("enter the values into array:");
scanf("%d", &num[i]);
for(j=0; j<5; j++)
{
for(j=i+0; j<5; j++)
}
if(num[i]>num[j])
{
t=num[i]
num[i]=num[j];
num[j]=t;
}
}
}
printf("sorted array");
for(i=0; i<5; i++)
{
printf("%d\t", num[i]);
}
getch();
```

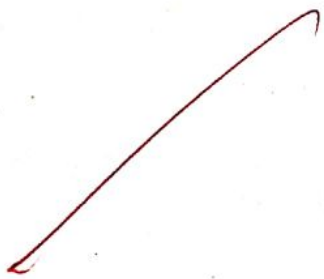
NDO

Enter elements of matrix X: 2

1
8
3
4
5
6
7
8

Enter elements of matrix Y: 3

2
2
2
2
2
2
2
2



matrix

	12	10
27	24	10
		24
48	42	42

Program 6: Write a C program to print matrix multiplication

```
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
int x[3][3], y[3][3], z[3][3];
int r, c, k, t;
printf("\n Enter elements of matrix:");
for(r=0; r<3; r++)
{
for(c=0; c<3; c++)
{
scanf("%d", &x[r][c]);
}
}
printf("\n Enter elements of matrix y:");
for(r=0; r<3; r++)
{
for(c=0; c<3; c++)
{
scanf("%d", &y[r][c]);
}
printf("\n Enter the values of matrix y:");
for(r=0; r<3; r++)
{
```

03/3/2020

PRACTICAL 6

AIM: Program on string manipulation.

a] copying two strings - strcpy()

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
 char a[10], b[20];
 clrscr();
 printf("\n Enter a string:");
 gets(a);
 printf("\n string is:%s",a);
 strcpy(b,a);
 printf("\n After copying a string:");
 printf("\n %s",b);
 getch();
}
```

b) Reversing a string - strrev()

```
→ #include<conio.h>
  #include<stdio.h>
  #include<string.h>
  void main()
  {
    char a[20];
    clrscr();
    printf("\n Enter a string:");
    gets(a)
    strrev(a);
    printf("\n Reverse of the string is %s",a);
    getch();
  }
```

c] combining two strings - strcat()

```
→ #include<conio.h>
  #include<stdio.h>
  #include<string.h>
  void main()
  {
      char a[20], b[20];
      clrscr();
      printf("\n Enter 1st string:");
      gets(a)
      printf("\n Enter 2nd string:");
      gets(b).
```

```
strcat(a,b);
printf("\n After combining string :");
printf("\n %s",a);
getch();
}
```

d) comparing two strings - strcmp()

```
#include<conio.h>
#include<stdio.h>
#include<string.h>
void main()
{
    char a[30],b[30];
    clrscr();
printf("\n Enter 1st string :"); gets(a);
printf("\n Enter 2nd string :");
 gets(b);
if(strcmp(a,b)==0)
 {
 printf("The string are equal.\n");
}
else
{
printf("The strings are not equal\n");
}
getch();
}
```

CNO

e) string conversion to lowercase --strlwr()

```
#include conio.h
#include <stdio.h>
#include<string.h>
void main()
{
  char a[50]; clrscr();
  printf("\n enter a string: ");
  gets(a);
  strlwr(a);
  printf("\n the string is lower case : %s",a);
  getch();
}
```

f) string conversion to uppercase - strupr()

```
#include<conio.h>
#include<stdio.h>
#include<string.h>
void main()
{
  char a[50];
  clrscr();
  printf("\n Enter a string :");
  gets(a);
  strupr(a);
  printf("\n The string is upper case : %s",a);
  getch();
}
```