Output :-

** Demonstration of Data Types **
Enter your Roll Number :
1817
Enter your name :
Avish
Enter your mobile number :
987654
Enter your grade :
A
Enter your percentage :
99
Your roll no is : 1817
Your name is : Abhilash
Your mobile no. is : 987654
Your grade is : A
Your percentage : 99.0000

PRACTICAL 1-1

Aim :- Write a program to understand the basic datatypes and I/o

Source code :

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int roll,
    char name[50];
    long double mob;
    char grage;
    float per;
    clrscr();
    printf("** demonstration of data types **");
    printf("Enter your roll no. : \n");
    scanf("%d", &roll);
    printf("Enter your name : \n");
    scanf("%s", name);
    printf("Enter your mobile number : \n")
    scanf("%ld", mob);
    printf("Enter your grade : \n");
    scanf("%s", &grade);
    printf("Enter your percentage : \n");
    scanf("%f", &grade);
    printf("your name is %s \n", name);
    printf("your mobile number is : %d \n", mob);
```

```
    printf("Your grade is : %c \n", grade);
    printf("Your percentage is : %f %%", per);
    getch();
}
```

// Program 2

```
#include <stdio.h>
#include <conio.h>
void main()
{
float pi = 3.142;
float r, AOC;
clrscr();
printf("*** Area of circle ***\n");
printf("Enter the radius : \n");
scanf("%f", &r);
AOC = pi * r * r;
printf("Area of circle is : %f \n", AOC);
getch();
}
```


Output :-

*** Area of circle ***
Enter the radius
is
Area of circle is : 706.950012

Enter first number: 24
Enter second number: 12
Addition is: 36.00
subtraction is: 12.00
multiplication is: 288.00
Division is: 2.00

PRACTICAL NO. 2

Aim: write a C program to show different types of operators:-

a) Arithmetic operator:

Source code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    float n1, n2, add, sub, mul, div;
    clrscr();
    printf("Enter first number:\n");
    scanf("%f", &n1);
    printf("Enter second number:\n");
    scanf("%f", &n2);
    add = n1 + n2;
    sub = n1 - n2;
    mul = n1 * n2;
    div = n1 / n2;
    printf("Addition is: %f", add);
    printf("subtraction is: %f", sub);
    printf("Multiplication is: %f", mul);
    printf("division is: %f", div);
    getch();
```

b) Logical operator

Source code:

```
#include <stdio.h>
#include <conio.h>

void main()
{
    int x, y, v1, v2, v3, v4, v5, z;
    clrscr();
    printf("Enter First value : \n");
    scanf(" %d ", &x);
    printf("Enter second value : \n");
    scanf("%d", &y);
    printf("Enter third value : \n");
    scanf("%d", &z);
    v1 = (x<y) && (z>y);
    v2 = (x==y) && (z<y);
    v3 = (x<y) || (z==y);
    v4 = !(x==y);
    v5 = (x==y);
    printf("Value 1 is : %d \n", v1);
    printf("value 2 is : %d \n", v2);
    printf("value 3 is : %d \n", v3);
    printf("value 4 is : %d \n", v4);
    printf("Value 5 is : %d \n", v5);
    getch()
}
```


Output:

```
Enter first value : 9
Enter second value : 8
Enter third value : 7
Value 1 : 0
Value 2 : 1
Value 3 : 1
Value 4 : 0
Value 5 : 1
```

Output

Enter first number : 23
Enter second number : 20
Largest number is : 23

c) Ternary operator

```
# include <stdio.h>
# include <conio.h>
void main ()
{
    int a, b, c;
    clrscr ();
    printf ("Enter first number : ");
    scanf ("%d", &a);
    printf ("Enter second number : ");
    scanf ("%d", &b);

    c = a>b ? a : b;

    printf ("Largest number is : %d", c);
    getch ();
}
```

Practical No. 3

Aim : Write a C program to find whether the entered year is leap or not.

Source code :

```
# include <stdio.h>
# include <conio.h>

void main()
{
int n;
clrscr();
printf("Enter a year : ");
scanf("%d", &n);
if (n%4==0)
{
printf("leap year")
}
else
{
printf("not a leap year")
}
getch();
}
```


Output

Enter a year : 2016
leap year
Enter a year : 2017
Not a leap year

14/01/2020

Output :-

2
4
6
8
10
12
14
16
18
20

Practical No. 4

Aim :- Program to understand looping statements

Program1: program to print even numbers from 1 to 100

Algorithm :-

Step 1 Initialize a variable with datatype integer.

Step 2 Use condition statement to print even number.
Initialize a variable upto the number you have to print.

Step 3 Display the even numbers

Code

```
#include <stdio.h>
#include <conio.h>
void main()
{
int i
clrscr();
for(i=2; i<=20; i=i+2)
{
printf("%d\t", i);
}
getch();
}
```

Program 2 :-

Algorithm :-

Step 1. Initialize the variables with integer data type.
Step 2. Store one variable equal to 1.
Step 3. Use conditional statement, with less than 5
Step 4. Declare value one in another variable
Step 5. Use conditional statement for another variable.
Step 6. Display the value of another variable
Step 7. Last increment the value of first variable.

Code

```
# include <stdio.h>
# include <conio.h>
void main
{
    int k,i;
    clrscr();
    i=1;
    while (i<=5)
    {
     k=1;
     while (k<=i)
     {
     printf("%d", k);
     ++k;
     }
     printf("\n");
     i++;
    }
    getch();
    }
```


Output :-

```
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

036

Output

```
*
* *
* * *
* * * *
* * * * *
```


Program 36 :-

Algorithm :-

Step 1 :- Initialize two variable with datatype integer

Step 2 :- Use nested conditional statement and check if 'i' is less than equal to 5 increment in it by 1.

Step 3 :- In another condition check the value starts from 1 less than equal to previous conditional variable and increment the value by 1.

Step 4 :- print *

Code

```
# include <stdio.h>
# include <conio.h>
void main ()
{
  int i, j;
  clrscr ();
  for (i = 1, i <= 5, i++)
  {
    for (j = 1, j <= i ; j++)
    {
      printf ("*");
    {
      printf ("\n");
    }
    getch ();
  }
```

Program 4 :-

Algorithm :-

Step 1 :- Initialize four variables with datatype integer.

Step 2 :- Initialize two no. variable with value 1 and 0.

Step 3 :- Print the value of second value.

Step 4 :- Use for condition statement which starts from 3 and less than equal to 20, increment the value.

Step 5 :- Add the two variable and store it in f variable indicating fibonacci.

Step 6 :- Print the fibonacci series.

Step 7 :- Swap the value

Code

```
#include <stdio.h>
#include <conio.h>
void main()
{
  int a, b, f, i;
  clrscr();
  a = 1;
  b = 0;
  for (i = 3; i <= 20; i++)
  {
    f = a + b;
    printf("\n%d", f);
    a = b;
    b = f;
  }
  getch();
}
```


Output :-

1
1
2
3
5
8
13
21
34
55
89
114
233
377
610
987
1597
2884