

PRACTICAL - 1

Aim : Program to understand the datatypes and input/output

Program 1 : Area of rectangle

Algorithm

1. Initialize three variables length, breadth & Area
2. Take a input from the user & store the value in the variable declared.
3. Find the area of rectangle
4. Print the area of rectangle
5. End

CODE :

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int l, b, area;
    clrscr();
    printf ("Enter length and breadth");
    scanf ("%d, %d", &l, &b);
    area = l * b;
    printf ("The area of rectangle %d", area)
```

as

Output :

Program 1

Enter the number (l) = 7

Enter the number (b) = 58

Enter the area is 406

ss.

Program 2 : Volume of sphere

```
#include <stdio.h>
#include <conio.h>
void main()
{
    clrscr();
    float r, u, pi;
    printf ("Enter the radius")
    scanf ("%f", &r);
    pi = 3.14
    u = 4 * 3 / 8 * 0 * pi * r * r * r;
    printf ("The volume is %.f", u);
    getch();
}
```

Program 3: Average of three numbers

```
#include <stdio.h>
#include
void main()
{
    clrscr();
    float a, b, c, avg;
    printf ("Enter the number");
    scanf ("%f %f %f", &a, &b, &c);
    avg = (a + b + c) / 3;
    printf ("Avg: %.f", avg);
    getch();
}
```

Output : Program 2

Enter the radius = 7

The value is 1436.024733

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program 3

Output:

Enter the number : 7,0,2

avg : 6.01

```
float c, f ;  
printf ("Enter the value of celcius :");  
scanf ("%f", &c);  
f = (c * 4/5) + 32;  
printf ("Farenheit %f", f);  
getch();  
}
```

Prog 5 : Convert temperature from farenheit to celcius

```
#include <stdio.h>  
#include <conio.h>  
void main()  
{  
    float c, f ;  
    clrscr();  
    printf (" Enter the value of farenheit : ");
```

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Program 4:

Output

enter value in celcius : 3

Fahrenheit : 37.40002

Program 5

Enter view of Fahrenheit : 80

Celsius : 26.666.

PRACTICAL - 2

Aim : Programs on operators & representation

Program 1

Algorithm

1. Initialize four variables with datatype int.
2. Clear the screen.
3. Store the value 25 in a & 10 in b.
4. Print value of a & b
5. Do the expression $c = ++a - b$
6. Do post increment b & add to a, store it in d
7. print the value of a, b, c & d.
8. Do a%b & store in c.
9. Do a/b & store in d.
10. print the value of c & d.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a,b,c,d;
    clrscr();
    a=25, b=10;
    printf ("In a=%d, b=%d", a,b);
    c = ++a - b;
    d = b++ + a;
    printf ("In a=%d, b=%d, c=%d, d=%d",
           a,b,c,d);
}
```

Output :

$$a = 25$$

$$b = 10$$

$$a = 26, b = 11, c = 16, d = 36$$

~~$$c = 11, d = 2$$~~

```

c = a / b
d = a % b
printf ("In c = %d , d = %d ", c, d);
getch ();
}

```

Program 2

Algorithm

1. Initialize variable a, b, c with value a=8, b=15, c=10 & x, y, z
2. print the value of a, b, c
3. perform $a - b / 3 + c * 2 - 1$ & store in x
4. perform $a - b / (3 + c) * (2 - 1)$ & store in y.
5. perform $a - (b / (3 + c) * 2) - 1$ & store in z
6. print the value of x, y, z.

#

void main()

{

float a, b, c

a = 8

b = 15

18.

Output :

$a = 8.00000$, $b = 15.0000$, $c = 3.00000$
 $x = 8.00000$, $b = 5.0000$, $c = 2.00000$.

A red arrow points from the second b value to the first b value.

Program 3

Algorithm

1. Initialize a, b, c , ans with datatype ans `int`.
2. clear the screen.
3. store the value in $a=6, b=4, c=1$
4. perform expression $+a \&& b++ || c++$
& store the value in ans.
5. print the value for a, b, c , ans.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a, b, c, ans;
    clrscr();
    a = 6; b = 4; c = 1;
    ans = +a && b++ || c++;
    printf (" a = %d; b = %d; c = %d, ans = %d\n",
           a, b, c, ans);
}
```

Output :

~~$a = 7$
 $b = 5$
 $c = 1$
 $ans = 1$~~

Output:

~~a = 10
b = 4.
c = 90
x = 11~~

Program 4 Algorithm

1. initialize variables a,b,c,x with datatype int
2. clear the screen.
3. store $y = 16$
4. pre post increment the value of x & store in a
5. decrement the value of x by 4 & store in b
6. perform $*++ *-- b$ & store in c.
7. print the value of a,b,c,x
8. End.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a, b, c, x;
    clrscr();
    x = 10;
    a = x++;
    b = --x;
    c = x++ * --b
    printf("a=%d, b=%d, c=%d, x=%d", a, b, c, x)
    getch();
}
```

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PRACTICAL - 3

Aim : program on decision making & branching .

Program 1: check whether number is odd or even

```
# include <stdio.h>
# include <conio.h>
void main()
{
    clrscr();
    int n, m;
    printf("In Enter value of n: ");
    scanf("%d", &n);
    m = n / 2;
    if (m == 0)
        printf("In %d is odd ", n);
    else
        printf("In %d is even ", n);
}
```

Output :
 Enter value of n: 12
 12 is even

Enter value of n: 51
 51 is odd

Output :

Enter the year 2001
2001 is not a leap year
Enter the year 2004
2004 is a leap year.

program 2 : Check if the entered year is a leap year or not.

#include < stdio.h >
#include < conio.h >
void main()
{
 clrscr();
 int y, f;
 printf("Enter the year ");
 scanf("%d", &y);
 y = y / 4;
 if (y == 0)
 printf("In %d is a leap year ", y);
 else
 printf("It is not leap year ");
 getch();
}

Program 3: Check whether entered alphabet is a vowel or consonant.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    clrscr();
    char ch;
    printf("In enter the alphabet ");
    ch = getch();
    if (char == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' || ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U')
        printf("In %c is vowel ", ch);
    else
        printf("In %c is a consonants ", ch);
}
```

Output:

Enter the alphabet: i
i is a vowel

Enter the alphabet : 3
3 is a consonant.

Program 4
Output:
Enter 3 nos
3 7 1

b is greater.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a,b,c;
    clrscr();
    printf(" Enter 3 nos");
    scanf("%d %d %d", &a, &b, &c);
    if ((a>b) && (a>c))
        printf("\n a is greater");
    else if ((b>a) && (b>c))
        printf("\n b is greater");
    else
        printf("\n c is greater");
    getch();
}
```

Program 5: Program to enter single digit & print that digit in word form.

```
#include  
#  
void main()  
{  
    clrscr();  
    int n;  
    printf ("In enter single digit decimal no.");  
    scanf ("%d", &n);  
    if (n==0)  
        printf ("In zero");  
    else if (n==1)  
        printf ("In one");  
    else if (n==2)  
        printf ("In two");  
    else if (n==3)  
        printf ("In three");  
    else if (n==4)  
        printf ("In four");  
    else if (n==5)  
        printf ("In five");  
    else if (n==6)  
        printf ("In six");  
    else if (n==7)  
        printf ("In seven");  
    else if (n==8)  
        printf ("In eight");
```