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Subject: Introduction to Computer Programming with C

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★ Practical 1 :-

(i) Write a C program to understand concepts of Structure of C program, scanf and printf. (W.A.P. to read a no. from keyboard & display its value on the screen).

* Program software code :-

```c
# include <stdio.h>

int main ()
{
    int a, b;

    printf ("Enter The Value of a and b : ");

    // Read and Store Inputs
    scanf ("%d %d", &a, &b);

    // Display Outputs
    printf (" Your Value Of The a=%d and b=%d ", a, b);

}
```

Program Software:
[Codeblocks]

Output:-

Enter The Value of a and b : 53
2002

Your Value Of The a = 53 and b = 2002

Flow charts:-                         | Algorithm:-



Start

Read a,b
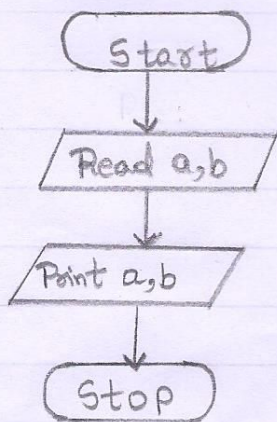
Print a,b

Stop

Step 1: Input two numbers : a, b

Step 2: Print a,b

Step 3: Stop

**Practical1(ii)** Write a C program to declare, assign & print values of variables of diff. data types. (W.A.P to calculate the area of circle where take radius as integer).

\* <u>Code:-</u>

```c
#include <stdio.h>

int main()
{
    int Radius;
    float Area;
    printf("Enter The Value Of Radius : ");

    scanf("%d", &Radius);

    Area = 3.14 * Radius * Radius;

    printf("The Area Of The Circle Is : %.2f", Area);
}
```
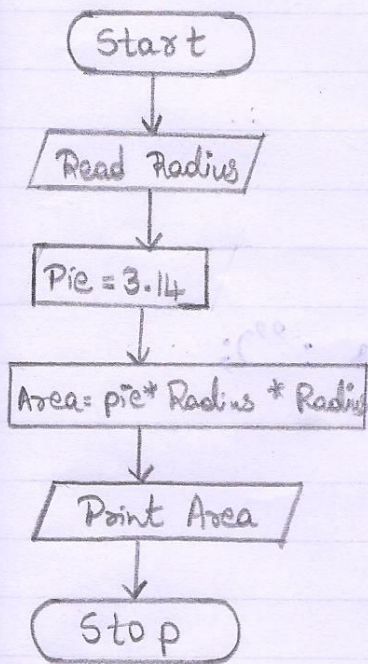
Output :-

Enter The Value Of Radius : 53
The Area Of The Circle Is : 8820.26

Flow charts:-

Start

↓

Read Radius

↓

Pie = 3.14

↓

Area = pie * Radius * Radius

↓

Print Area

↓

Stop

Algorithms:-

Step1 : Input Radius

Step 2 : Calculate pie = 3.14

Step 3 : Calculate Area = pie * Radius * Radius

Step 4 : Print Area

Step 5 : Stop

| Practial 1:(iii) | Write a program to that performs as calculator (addition, multiplication, division, Subtraction). |

**\*** Code:-

```c
# include <stdio.h>

int main ()
{
    float a,b;

    printf ("Enter The Values Of a and b \n");

    Scanf ("%f %f", &a, &b);

    printf ("Addition is : %.2f + %.2f = %.2f\n", a,b,a+b);
    printf ("Subtraction is : %.2f - %.2f = %.2f\n", a,b,a-b);
    printf ("Multiplication is : %.2f * %.2f = %.2f\n", a,b,a*b);
    printf ("Division is : %.2f / %.2f = %.2f\n", a,b,a/b);
}
```

Program Software:-
[Code Blocks]

## Output :-

Enter The Value Of a and b

5253

2002

Addition is : 5253.00 + 2002.00 = 7255.00
Subtraction is : 5253.00 − 2002.00 = 3251.00
Multiplication is : 5253.00 * 2002.00 = 10516506.00
Division is : 5253.00 / 2002.00 = 2.62

## Flowcharts :-

```
        ( Start )
            |
            v
       / Read a,b /
            |
            v
     [ Addition = a+b ]
            |
            v
    [ Subtraction = a-b ]
            |
            v
   [ Multiplication = a*b ]
            |
            v
     [ Division = a/b ]
            |
            v
    / Print Addition   /
   /  Subtraction     /
  /   Multiplication /
 /    Division      /
            |
            v
        ( Stop )
```
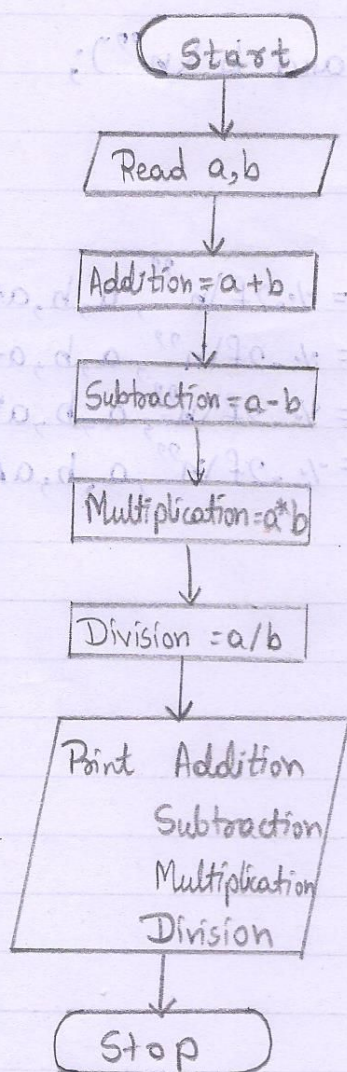
## Algorithms :-

Step 1 : Input a, b

Step 2 : Calculate Addition = a+b

Step 3 : Calculate Subtraction = a-b

Step 4 : Calculate Multiplication = a*b

Step 5 : Calculate Division = a/b

Step 6 : Print Addition
Subtraction
Multiplication
Division

Step 7 : Stop