

42

OUTPUT :-

Enter a string : ~~1234567890~~ Hello

Enter substring : ~~123~~ Hello

String found !

else
 {
 printf ("\\n string found ");
}
getch();
}

Step 1: start

Step 2: declare function with integer parameters

Step 3: declare variables display the user the value of x & y respectively and sum the same.

Step 4: add the value and store in another variable

Step 5: display the no. before function call.

Step 6: call the function and display the sum

Step 7: refine the declared function and print the sum.

Step 8: Stop.

#2

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

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

```
void main()
```

```
{
```

```
char str[50];
```

```
char st[10];
```

```
clrscr();
```

```
printf("Enter substring to find in the  
whole string");
```

```
gets(st);
```

```
if (strstr(str, st) == NULL)
```

```
{
```

```
printf("String not found!");
```

```
}
```

OUTPUT:-

Enter the value of $x: 5$

Enter the value of $y: 6$

before function call the no. are

$x = 5 \quad y = 6 \quad r = 11$

Inside the function

$x = 10 \quad y = 20 \quad r = 30$

after function call the no. are:

$x = 5 \quad y = 6 \quad r = 30$

PRACTICAL - 7.

55

call by value:

#include <stdio.h>

#include <conio.h>

void main()

{

int x, y, r;

clrscr();

printf("enter the value of x:");

scanf("%d", &x);

printf("enter the value of y:");

scanf("%d", &y);

$r = x + y;$

printf("\n before function call the no. are

printf("\n x=%d it y=%d it r=%d", x, y, r);

$r = \text{sample}(x, y);$

printf("after function call the no. are

printf("\n x=%d it y=%d it r=%d", x, y, r);

getch();

3

int sample(int a, int b);

{

int result;

a = 10;

b = 20;

result = a + b;

printf("\n Inside the function");

printf("\n x=%d it y=%d it r=%d", a, b, result);

return result;

#3 Cope:-

```
#include <stdio.h>
#include <conio.h>
void main()
{
    struct employee
    {
        int Id;
        char name [30];
        char add [30];
    };
    struct employee e[50];
    int size, i;
    clrscr();
    printf("Enter how many records you want to enter: ");
    scanf("%d", &size);
    for (i=1; i<=size; i++)
    {
        printf("\n Enter the ID: ", i);
        scanf("%d", &e[i].Id);
        printf("\n Enter the name: ", i);
        scanf("%s", e[i].name);
        printf("\n Enter the address: ", i);
        scanf("%s", e[i].add);
    }
    if ("Employee Record is: ");
}
```

- 1 enters the ID: 1
- 1 enters the name: Vedant
- 1 enters the address: India, ~~mumbai~~
- 2 enters the ID: 2
- 2 enters the name: Rajesh
- 2 enters the address: India (Rajasthan)
- 3 enters the ID: 3
- 3 enters the Name: Prisha
- 3 enters the address: India (Gujrat)

Employee record is:

ID	Name	Address
1	Vedant	India (mumbai)
2	Rajesh	India (Rajasthan)
3	Prisha	India (Gujrat)

Experiments

left

medium

percentage

right

medium

87

~~88~~ 89

refresh

88

Roll	Name	Percentage
1210	Medium	87
1829	High	88.

#2 Algorithm :-

No.

Step 1: start

Step 2: declare structure student which will take input as roll. no. in integer, name in character & percentage p, float

Step 3: depending upon the number of inputs declare the structure objects.

Step 4: display to the user to enter roll, Name & percentage for the the 1st user & 2nd user respectively.

Step 5: display the same by scanning the inputs.

#1 ~~Algorithm~~ Algorithm :-

Step 1: start

Step 2: declare structure student which will take input as roll number in integer, name in character

Step 3: call the declared structure with structure object.

Step 4: ~~call~~ declare the structure with initialization of variables.

Step 5: print to the user to enter the student details as roll no, name and percentage with format specified.

Step 6: display the same to user.

Enter stud details:
 Enter roll no: 1710
 Enter the fees : ~~Vedant~~ 87
 Enter the name : ~~Vedant~~ Vedant

roll	per	name
1710	87	Vedant

PRACTICAL-6

CODE :-

```
#include <stdio.h>
#include <conio.h>
void main()
{
    struct stud
    {
        int roll;
        char name[20];
        float per;
    };
    struct stud s1;
    clrscr();
    printf ("\n Enter stud details:");
    printf ("\n Enter roll no:");
    scanf ("%d", &s1.roll);
    printf (" Enter the fees:");
    scanf ("%f", &s1.per);
    printf ("\n \t Roll \t Name \t fees");
    printf ("\n \t %d \t %s \t %.2f",
           s1.roll, s1.name, s1.per);
    getch();
}
```

Step 7 :- Use `for` statements with `exp` and use `print` statement.

Step 8 :- Use `if` statement for checking if ~~j=1~~ $j=1$. If yes, `print("W")`

Step 9 :- End.

~~Finalization~~

```
printf ("If %t", result + C[i][j]);  
if (j == 1)  
{
```

```
    printf ("\n");  
    j = 3;  
    getch();  
}
```

Algorithm:-

Step 1 :- start using needed files

Step 2 :- Initialize variables.

Step 3 :- Use 2 for statements, one with i and
other one with j.

Step 4 :- use the print statement and scan also for
required input.

Step 5 :- Again Use 2 for statements and with exp
and then write formula for adding
a & b.

Step 6 :- print the sum.

Step 7 :-

CODE:-

```

3) #include <stdio.h>
#include <conio.h>
void main()
{
    float a[2][2], b[2][2], result[2][2];
    clrscr();
    printf("Enter elements of 1st matrix:");
    for (int i=0; i<2; i++)
    {
        for (int j=0; j<2; j++)
            printf("Enter b%d%d: ", i+1, j+1);
        scanf("%f", &b[i][j]);
    }
    for (int i=0; i<2; i++)
    {
        for (int j=0; j<2; j++)
            result[i][j] = a[i][j]*b[i][j];
    }
    printf("\n sum of Matrix:");
    for (int i=0; i<2; i++)
}

```

OUTPUT:-

Enter elements of 1st matrix:

Enter a₁₁: 2

Enter a₁₂: 3

Enter a₂₁: 1

Enter a₂₂: 4

Enter elements of 2nd matrix.

Enter b₁₁: 0

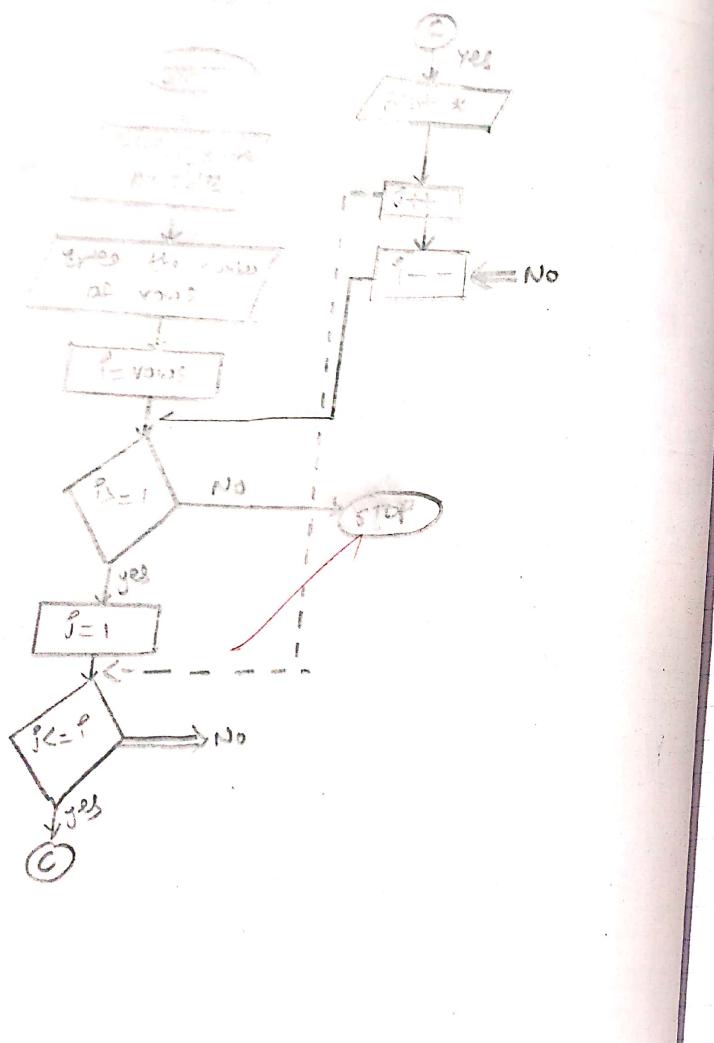
Enter b₁₂: 1

Enter b₂₁: 7

Enter b₂₂: 23

Sum of matrix

2	4
8	27



ALGORITHM :-

- Step 1 :- Begin the program with headers files.
- Step 2 :- Initialize variables i , j and rows which will be required in the program.
- Step 3 :- Use print statement for displaying text take input from the user.
- Step 4 :- Use Scan statement for taking input from the user in the form of integer.
- Step 5 :- Use for condition with required expression.
- Step 6 :- Use another for loop ~~inside~~ inside the main loop and again with the expression.
- Step 7 :- Use print ("*") statement.
- Step 8 :- End the program with getch().

2).

CODE :-

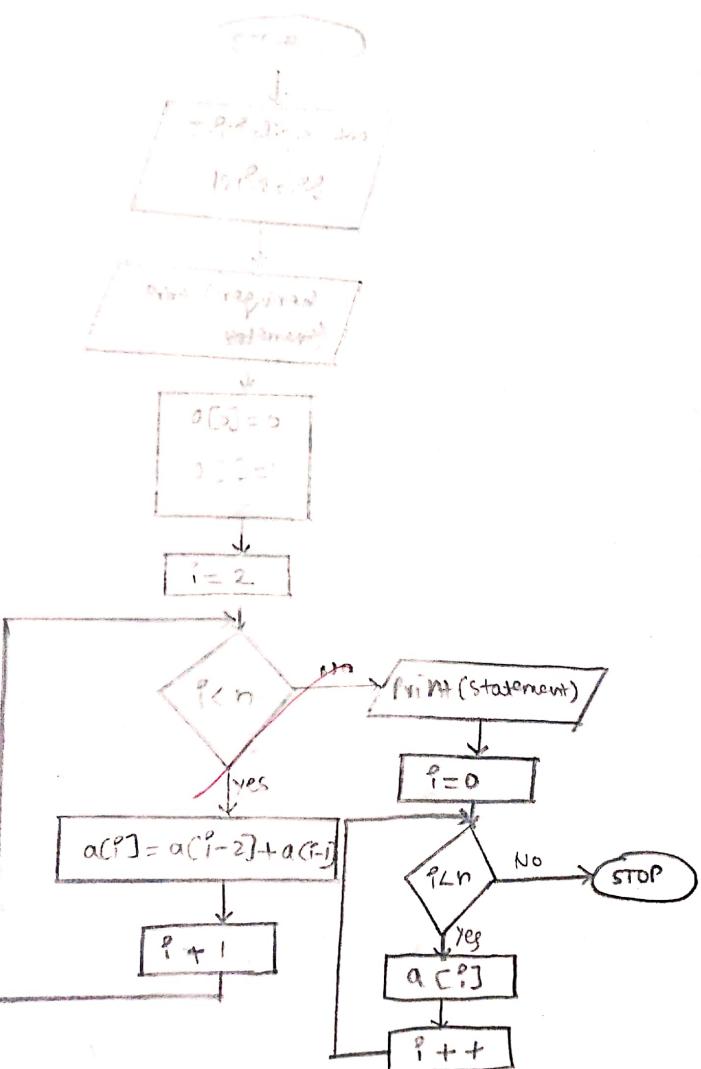
```
#include <stdio.h>
#include <conio.h>
Void main()
{
    Int i, j, rows;
    Clrscr();
    Printf ("Enter number of rows");
    Scanf ("%d", &rows);
    for (i = rows; i >= 1; i--)
    {
        for (j = 1; j <= i; j++)
        {
            Printf ("*");
        }
        Printf ("\n");
    }
    getch();
}
```

OUTPUT :- Enter number of rows 3 46

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

ALGORITHM :-

- Step 1 : Start the program by using header files.
- Step 2 : Initialize variables n , i and a with array length.
- Step 3 : Use print statement for getting proper output by using the required statement.
- Step 4 : Use Scan Statement for getting the input as integers by using %d.
- Step 5 : Use for statement and write the required expression relating with the variable i .
- Step 6 : Use the formula for adding the array inside the for loop.
- Step 7 : If condition gets terminated, Using printf and display the required output.
- Step 8 : Use another for statement with required command.
- Step 9 : End the program by getch().



PRACTICAL-5

Aim:- Fibonacci Series:

```
Q) #include <conio.h>
# include <stdio.h>
void main()
{
    int a[20], n, i;
    clrscr();
    printf("Enter the number of terms:");
    scanf("%d", &n);
    a[0]=0;
    a[1]=1;
    for (i=2; i<n; i++)
    {
        a[i] = a[i-2] + a[i-1];
    }
    printf("The Fibonacci series upto %d
    term is: \n", n);
    for (i=0; i<n; i++)
    {
        printf("%d ", a[i]);
    }
    getch();
}
```

CUTPUT :-

Enter the number of terms : 3
the Fibonacci series upto 3 terms is:

44

PRACTICAL-5

Aim:- Fibonacci Series:

```
2 #include <conio.h>
# include <stdio.h>
void main ()
{
    int a[20], n, i;
    clrscr();
    printf ("\n Enter the number of terms : ");
    scanf ("%d", &n);
    a[0]=0;
    a[1]=1;
    for (i=2; i<n; i++)
    {
        a[i] = a[i-2]+a[i-1];
    }
    printf (" \n the Fibonacci series upto %d
            term is : \n ", n);
    for (i=0; i<n; i++)
    {
        printf ("%d \t", a[i]);
    }
    getch();
}
```

OUTPUT :-

Enter the number of terms : 3
the Fibonacci series upto 3 terms is:

0 1 1

Enters the number of rows needed: 4.

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

CODE :-

```
#include <stdio.h>
#include <conio.h>
{
    int rows, i, j;
    clrscr();
    printf("Enter the number of rows needed : ");
    scanf("%d", &rows);
    for (i=0, j=1; i<=rows; i++)
    {
        for (j=0; j<=i; j++)
            printf("*");
        printf("\n");
    }
    getch();
}
```

07/02/2020

3.

Algo:- WAP to print pyramid using * sign.

ALGORITHM :-

Step 1 → START

Step 2 → Declare variables rows, i, j

Step 2 → Enter 'How many rows you need'.

Step 4 → Use the for loop method ~~and~~ with the expression $i=0; i \leq \text{rows}; i++$

Step 5 → Again use the for loop ~~but~~ with variable j and expression $j=0; j \leq i; j++$.

Step 6 → print the sign you want to use, example - '*' .

Step 7 → STOP.

Output :-

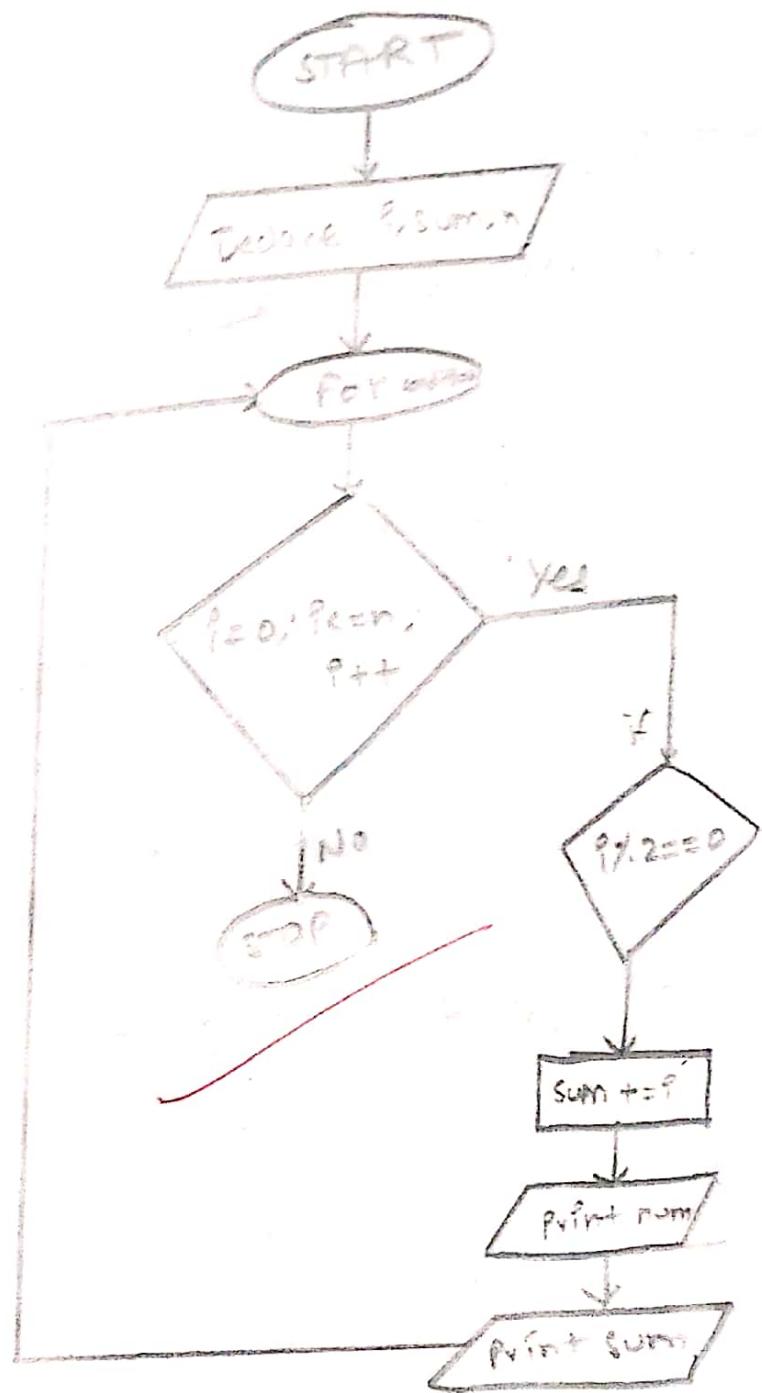
Enter the number : 20

2 4 6 8 10 12 14 16 18 20
Sum = 100

SOURCE CODE :-

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, i, sum=0;
    clrscr();
    printf("Enter the Number : ");
    scanf("%d", &n);
    for (i=1; i<=n; i++)
    {
        if (i%2==0)
        {
            sum+=i;
            printf("%d", i);
        }
    }
}
```

```
3
printf("\nSum = %d", sum);
getch();
```



Enter the number of terms: 9
 The Fibonacci series is:

0
 1
 1
 2
 3
 5
 8
 13
 21



SOURCE CODE :-

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, show, a=1, b=1;
    clrscr();
    printf ("Enter the number of terms:");
    scanf ("The Fibonacci series is:");
    while (n>0)
    {
        show = a+b;
        a=b;
        b=show;
        printf ("\n% d", show);
        n--;
    }
    getch();
}
```

PRACTICAL - 4

No.

Topic: Programs on Looping.

- 1). Aim:- Write a program to find the Fibonacci series.

ALGORITHM :-

Step 1 → start

Step 2 → Declare variables i , a , b , show.

Step 3 → Initialize the variables $a=0$, $b=1$ and $show=0$.

Step 4 → Enter the number of terms of Fibonacci series to be printed. (n).

Step 5 → print first 2 terms of series.

Step 6 → - Use the loop for the following steps -

- $show = a + b$

- $a = b$

- $b = show$

- Increase value of i each time by 1.

- Print the values.

Step 7 → End.

Topic:- Programs on Looping.

1). Aim:- Write a program to find the Fibonacci series.

ALGORITHM :-

Step 1 → start

Step 2 → Declare variables i, a, b, show.

Step 3 → Initialize the variables a=0, b=1 and show=0.

Step 4 → Enter the number of terms of Fibonacci series to be printed. (n).

Step 5 → Print first 2 terms of series.

Step 6 → Use the loop for the following steps -

- Show = a + b

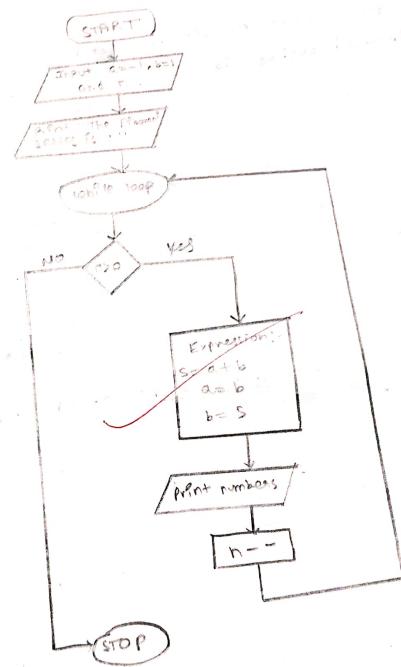
- a = b

- b = Show

- Increase value of i each time by 1.

- Print the values.

End.

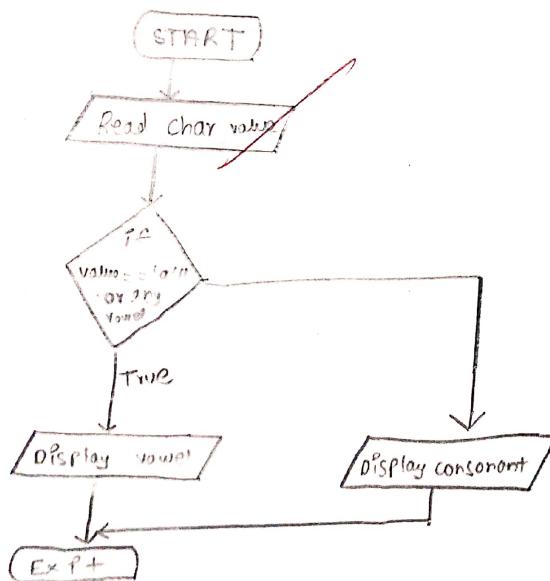


OUTPUT :-

Enter the Alphabet : o
vowel.

Enter the Alphabet : v
Consonant.

Flowchart:-



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CODE :-

```

#include <stdio.h>
#include <conio.h>
void main()
{
    char a;
    clrscr();
    printf("Enter the Alphabet : ");
    scanf("%c", &a);
    if (a == 'a' || a == 'e' || a == 'i' || a == 'o'
        || a == 'u' || a == 'A' || a == 'E' || a ==
        a == 'O' || a == 'U')
        printf("vowel");
    else
        printf("consonant");
}
  
```

24/10/2020

getch();

3.

- 3]. Write a program to find whether the character is vowel or consonant.

Algorithm :-

Step 1: Start

Step 2: [Take Input] Read character value from user

Step 3: [Check] if value == 'a' || value == 'e'

value == 'i' || value == 'o'

value == 'u' || value == 'A' || value == 'E'

value == 'I' || value == 'O' || value == 'U'

Print "Vowel"

else Print "consonant"

Step 4: Exit

No.

```
scanf ("%d", &mob);
printf ("In Student name: %s", name);
printf ("In Student address: %s", add);
printf ("In Student roll.no: %d", rollno);
printf ("In Student percent: %f", percent);
printf ("In Student grade: %c", grade);
printf ("In Student mobilenumber: %d", mob);
getch();
```

3

Program 2

Area of circle

Source code :

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    float r;
    float pi = 3.14;
    float area;
    clrscr();
    printf ("Enter radius\n");
    scanf ("%f", &r);
    area = pi * r * r;
    printf ("Area: %.2f", area);
    getch();
```

4

OUTPUT :-

----- Demonstrate various datatypes ...
Name of student : Vedant
Address of student : Mumbai
Roll.no of student : 1710
Percentage of student : 87.00
Grade of student : A
Mobile.No : 2223349696

Student name : Vedant

Student address : Mumbai

Student rollno : 12

Student percent : 87.00

Student grade : A

Student mob.no : 2223349696

PRACTICAL - 1

Aim : To study the use of different types of types.

Source code :-

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    char.name [50];
    char.add [50];
    int rollno;
    float percent;
    char grade;
    long int mob;
    clrscr();
    printf (".... Demonstrate various Datatypes
            .... \n");
    printf ("Name of the student \n");
    scanf ("%s", $name);
    printf ("Address of student \n");
    scanf ("%s", $add);
    printf ("Roll no. of student \n");
    scanf ("%d", $rollno);
    printf ("Percentage of student \n");
    scanf ("%f", $percent);
    printf ("Grade of student \n");
    scanf ("%s", $grade);
    printf ("Mobile no. \n");
```

OUTPUT :-

Biggest no is 100.

31

PRAK

Ternary Operator:

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    int a=100, b=20, c=50, big;
    clrscr();
    big = a>b ? a>c ? a : b;
    printf ("Biggest no is %d", big);
    getch();
}
```

17/01/2020

Logical Operations.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    float x,y,z, value1, value2, value3, value4,
    value5;
    clrscr();
    printf("enter 1st value : ");
    scanf ("%f", &x);
    printf ("enter 2nd value : ");
    scanf ("%f", &y);
    printf ("enter 3rd value : ");
    scanf ("%f", &z);
    value1 = (x<y) && (z>y);
    printf ("Value 1 is : %f \n", value1);
    value2 = (x=y) && (z<y);
    printf ("Value 2 is : %f \n", value2);
    value3 = (x<y) || (z=y);
    printf ("Value 3 is : %f \n", value3);
    value4 = !(x==y);
    printf ("Value 4 is : %f \n", value4);
    value5 = (x==y);
    printf ("Value 5 is : %f \n", value5);
    getch();
}
```

OUTPUT:

```
Enter 1st value : 9
Enter 2nd value : 8
Enter 3rd value : 2
value 1 is 0 : 0
value 2 is 1 : 1
value 3 is 1 : 1
value 4 is 0 : 0
value 5 is 1 : 1
```

UUTUI

Enter 1st number : 8
Enter 2nd number : 2
Addition of 2 nos : 10
Subtraction of 2 nos : 6
Multiplication of 2 nos : 16
Division of 2 nos : 4

PRACTICAL-2

29

AIM: Write a C program which will show the use of various different types of operators.

#Arithmetic Operators

SOURCE CODE:

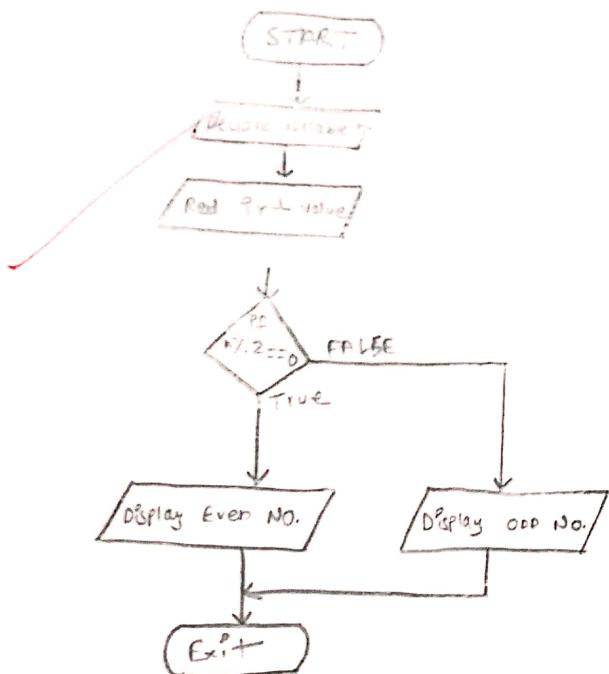
```
#include <stdio.h>
#include <conio.h>
void main()
{
    int num1, num2, add, sub, mul, div;
    clrscr();
    printf("Enter 1st number:");
    scanf("%d", &num1);
    printf("Enter 2nd number:");
    scanf("%d", &num2);
    add = num1 + num2;
    printf("Addition of 2 nos.: %.d \n", add);
    sub = num1 - num2;
    printf("Subtraction of 2 nos.: %.d \n", sub);
    mul = num1 * num2;
    printf("Multiplication of 2 nos.: %.d \n", mul);
    div = num1 / num2;
    printf("Division of 2 nos.: %.d", div);
    getch();
}
```

3

Enter a number : 19
Odd Number

Enter a number : 18
Even number.

Flowchart :-



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Programs on decision statement.
Q) write a program to find odd & Even number.

ALGORITHM :-

Step 1: START
Step 2: [Take Input] Read a number from user.
Step 3: Check if number $\% 2 == 0$ then print "Even Number" else print "Odd Number".

Step 4: Exit.

CODE :-

```
#include <stdio.h>
#include <conio.h>
Void main()
{
    int n;
    clrscr();
    printf("Enter a number:");
    scanf ("%d", &n);
    if (n % 2 == 0)
    {
        printf ("Even number");
    }
    else
    {
        printf ("Odd number");
    }
}
```

(Q). Write a program to print ~~ASCII~~ numbers of ASCII characters

CODE :-

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

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

```
void main()
```

```
{
```

```
int i=40;
```

```
clrscr();
```

```
while(i<=60)
```

```
{
```

~~printf("Number as %d ASCII
characters %c", i, i);~~

```
i++;
```

```
}
```

```
3
```

Output:-

Enter first number 9

32

Enter Second number 4

Choose operation —

Result = 5 .