

Practical no - 1

Aim :- program do understand the basic datatype and I/O.

Program :-

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

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

```
void main ()
```

```
{
```

```
    char name [50];
```

```
    char add [50];
```

```
    int roll_no;
```

```
    float percent;
```

```
    char grade;
```

```
    char mob [10];
```

```
clrscr ();
```

~~print ("**** Demonstration of various datatype ****");~~

~~print (".. Name of the Student: ");~~

gets (name);

print ("Address of the Student.");

print ("n & Y. S", & add);

print ("n roll no. of the student: ");

scanf ("%d", & roll_no);

print ("n percentage of student : ");

scanf ("%f", & percent);

scanf ("%c", & grade);

}

3 " 100% 3.01
Program: 2 100% 3.01

Source code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int side area;
    clrscr();
    print("Enter the side\n");
    scanf("%d", & side);
    area = side * side;
    print("The Area of square %d", area);
```

~~Output :-~~

Enter 1st number: 8
Enter 2nd number: 8
Addition of 2 numbers: 16
Subtraction of 2 numbers: 0
Multiplication of 2 numbers: 64
Division of 2 numbers: 1.0000

Practical no - 2

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a) 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 numbers: %d\n", add);
```

```
sub = num1 - num2;
```

```
printf("Subtraction of 2 numbers: %d\n", sub);
```

```
mul = num1 * num2;
```

```
printf("Multiplication of 2 numbers: %d\n", mul);
```

```
div = num1 / num2;
```

```
printf("Division of 2 numbers: %d", div);
```

```
}
```

```
getch();
```

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logical operators
include <stdio.h>
include <conio.h>

```
void main()
{
    int x,y,z,value1,value2,value3,value4,value5;
    clrscr();
    printf("Enter 1st value : ");
    scanf("%d",&x);
    printf("Enter 2nd value : ");
    scanf("%d",&y);
    printf("Enter 3rd value : ");
    scanf("%d",&z);
    printf("Enter 4th value : ");
    scanf("%d",&value1);
    printf("Value 1 is : %d in",value1);
    value2=(x>y) & (z>y);
    printf("Value 2 is : %d in",value2);
    value3=(x<y) | (z=y);
    printf("Value 3 is : %d in",value3);
    value4= !(x==y);
    printf("Value 4 is : %d in",value4);
    value5= !(y==z);
    printf("Value 5 is : %d in",value5);
    getch();
}
```

Output

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

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Output: The biggest number is 100.

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Jernay operator

include <conio.h>

include <stdio.h>

void main()

{ int a=100, b=20, c=50, big;

clrscr();

big = a>b ? a>c ? a:b;

printf("The biggest number is: %d",big);

getch();

Step 1 : Start
Step 2 : [Take Input] Read a number from the user
Step 3 : Check if number $\% 2 == 0$ then
 print even number
Step 4 : EXIT

SOURCE CODE:

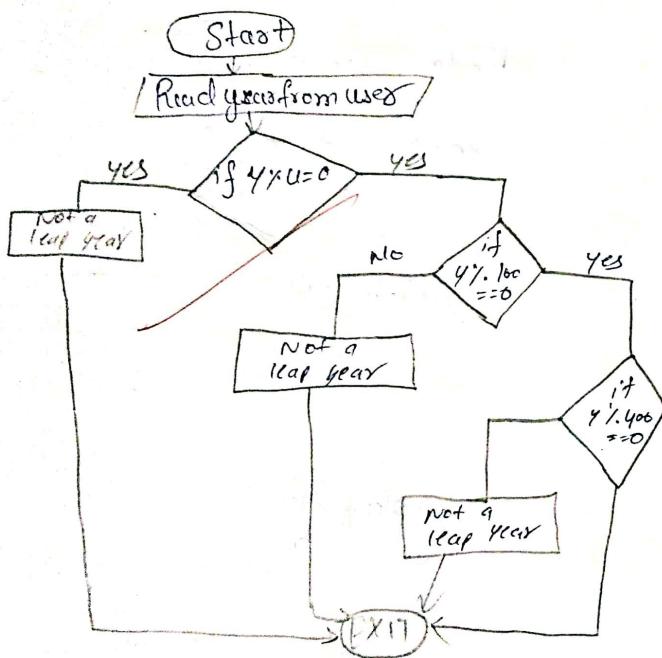
```
#include <stdio.h>
#include <conio.h>
Void main()
{
    int n;
    clrscr();
    printf("Enter a number:");
    scanf("%d", &n);
    if (n % 2 == 0)
    {
        printf("even number");
    }
}
```

Output:-

Enter a year : 2017
Not a leap year!

Enter a year : 2020
leap year

Flow chart:-



else

{
 y point f(" odd Number");
 Getch();

while a program do find the entered year is a leap year or not!
Algorithm :-

S-1 = Start

S-2 = [Take input] Read year from the user
S-3 = if year % 4 = 0 and year % 100 == 0
 year % 400 == 0 and year % 100 != 0
 print NOT A LEAP YEAR

S-4 = EXIT

SOURCE CODE :

```
#include <stdio.h>
#include <conio.h>
Void main()
{
```

 int year;
 clrscr();
}

if (Year % 4 == 0)

if (Year % 100 == 0)

if (Year % 400 == 0)

printf("Leap Year!")

else

printf("NOT a Leap Year")

else

printf("NOT a Leap Year")

else

printf("NOT a Leap Year")

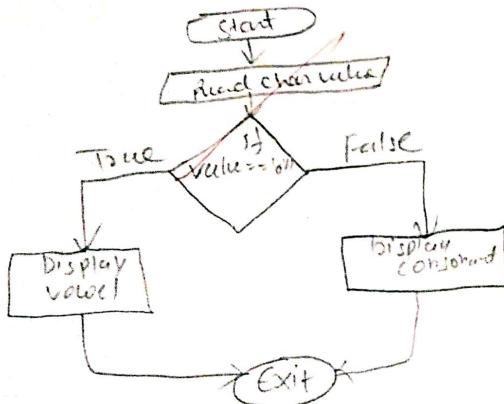
getch();

Output :-

Enter a alphabet: O
Vowel

Enter a alphabet: R
Consonant

Flowchart :



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Write a program to find whether the character is vowel or consonant
Algorithm

- S-1 : Start
- S-2 : [Text input] Read character value from user
- S-3 : (Check) if value == 'a' || value == 'e' ||
value == 'i' || value == 'o' || value == 'u'
value == 'A' || value == 'E' || value == 'I' ||
value == 'O' || value == 'U'
- S-4 : Exit

Source 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 == 'I' || a == 'O' || a == 'U')

{
 printf("vowel");

2
else
{
 printf("consonant");
 getch();
}

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practical no. 4

Aho write c/c++ program to print even number between 1 to 50 using while loop.

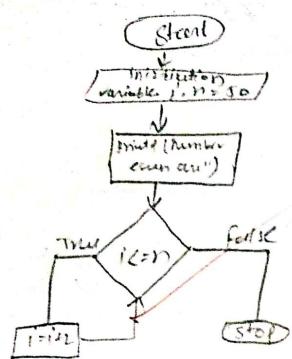
Source code:-

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int i, n=50
    clrscr();
    printf("All even number from 1 to 50 are
           :\n");
    i=2;
    while(i<=n)
    {
        printf("%d\n", i);
        i+=2;
    }
    getch();
}
```

3

Output:-

All even number 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

Algorithm:-Step

- S-1 : Start
- S-2 : Initialize two variables with static variable where $n=50$ & $i=2$
- S-3 : Use while loop for printing the even number upto the range 50
- S-4 : Adding ~~current~~ to current even number will give next even number.
- S-5 : Display the appropriate Output.
- S-6 : Stop.

b) Aim: Write a C programming to print odd numbers between 1-50 using do while loop

source code:-

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

```
void main()
```

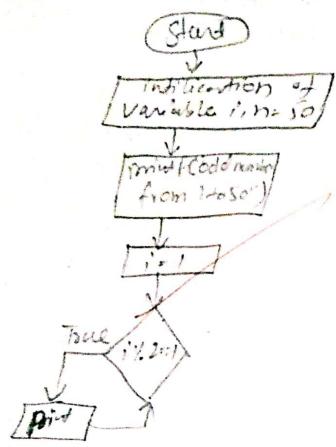
```
{  
    int i, n=50;  
    clrscr();  
    printf("odd numbers from 1 to 50  
    are =\n", n);  
    i=1;  
    do  
    {  
        if (i%2==1)  
        {  
            printf("%d\n", i);  
            i++;  
        }  
    }  
    while (i<=n);  
    getch();  
}
```

Output

odd numbers from 1 to 50 are .

```
1  
3  
5  
7  
9  
11  
13  
15  
17  
19  
21  
23  
25  
27  
29  
31  
33  
35  
37  
39  
41  
43  
45  
47  
49
```

35

Algorithm :-

Step:-

- S-1 : Start
- S-2 : Initialize two Variable, $n=50, i=1$,
- S-3 : Else do while loop for i starts from 1 to 50
- S-4 : Use if condition statement to check whether given numbers is even or odd.
- S-5 : Increment the value of i i.e. $i = i + 1$
- S-6 : Display the appropriate output.
- S-7 : Stop.

Q) Write a C programming to print sum of all even numbers between 1 to n using do loop.

Source code:-

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

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

```
void main()
```

```
{ int i, n, sum = 0;
```

```
 clrscr();
```

```
 printf("Enter the range : ");
```

```
 scanf("%d %d", &n);
```

```
 for (i=2; i<=n; i=i+2)
```

```
{ sum = sum + i;
```

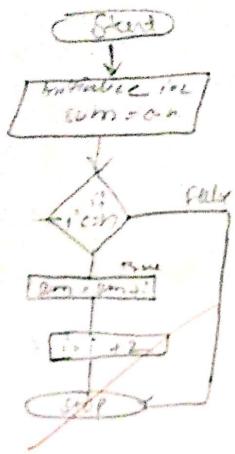
```
 printf ("Sum of all even number  
upto the range = ", sum);
```

```
 getch();
```

Output:

Enter the range 10

Sum of all even number upto
the range ans. 30.



Algorithm:-

- S-1 : Start
 - S-2 : Initialize three variable of
and one is dynamic
 $i=2 ; sum=0 ; n;$
 - S-3 : Use for loop for check the
the given range.
 - S-4 : Add current even number.
 - S-5 : Display the appropriate
 - S-6 : Stop.
- Jalostam*

Output:-
Enter the size of array you want: 6
Enter the value of a[0] element: 11
Enter the value of a[1] element: 12
Enter the value of a[2] element: 13
Enter the value of a[3] element: 14
Enter the value of a[4] element: 15

The elements of array are:

a[0]=11
a[1]=12
a[2]=13
a[3]=14
a[4]=15

Practical no: 5

Arrays

or Basics of Array

WAP in C to read array elements from the user and display.

Source code

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a[16], size, i;
    clrscr();
    printf("Enter the size of array you want: ");
    scanf("%d", &size);
    for (i = 0; i < size; i++)
    {
        printf("\nEnter the value of a[%d]\n", i);
        scanf("%d", &a[i]);
    }
    printf("\nThe array elements are: ");
    for (i = 0; i < size; i++)
        printf("\n%d", a[i]);
    getch();
}
```

3

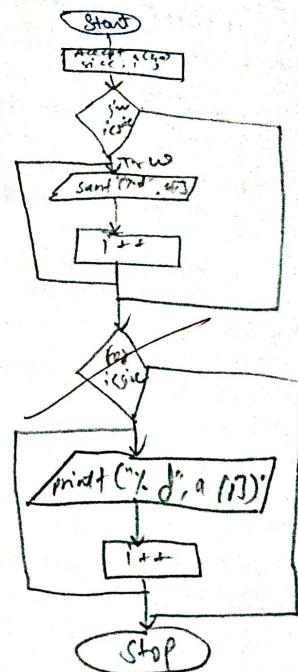
Scanned with CamScanner

18.

Algorithm:-

- S-1 : Declare a array of any size
- S-2 : Accept the number of elements user want to enter in array.
- S-3 : use for loop to accept the array element from the user.
- S-4 : Again use for loop to display array elements.

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Output:
Entered the number of terms: 8
0
1
1
2
3
5
8
13

5(B) 83
Fibonacci series using array.
fibonacci series using array.

Source code:-

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

```
void main()
```

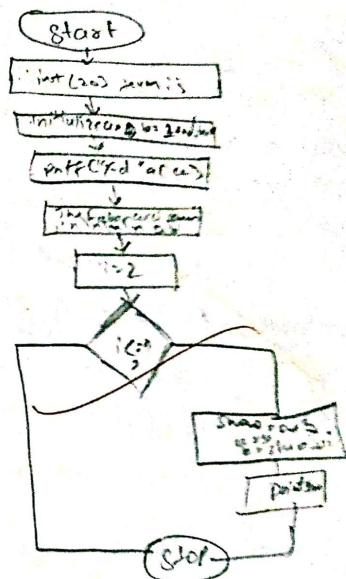
```
{  
    int a[20], term, i, j  
    clrscr();  
    printf("Enter the number of terms: ");  
    scanf("%d", &term);  
    a[0] = 0;  
    a[1] = 1;  
    printf("%d", a[0]);  
    printf("%d\n", a[1]);  
    for (i=2; i<term; i++)  
    {  
        a[i] = a[i-1] + a[i-2];  
        printf("%d", a[i]);  
    }  
}
```

getch();

3

Algorithm :-

- S-1 : Declare a array of anysize of data.
Type int;
- S-2 : Accept a value from user till you want to display the fibonacci series.
- S-3 : Initialize first element of array to 0 and second element to 1 as series starts from 0 and 1
- S-4 : use for loop to develop fibonacci series.
- S-5 : Display the series using printf() function.



Output

Enter the number of row : 2
Enter the number of column : 2
Enter the a[0][0] element : 11
Enter the a[0][1] element : 12
Enter the a[1][0] element : 13
Enter the a[1][1] element : 14

The displayed Matrix is :

11	12
13	14

5(c)

Q5: WAC program to refer to multidimensional array
in matrix input.

Source code

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a[2][2], row, col, i, j;
    clrscr();
    printf("Enter the number of row : ");
    scanf("%d", &row);
    printf("Enter the number of column : ");
    scanf("%d", &col);
    for (i=0; i<row; i++)
    {
        for (j=0; j<col; j++)
        {
            printf("\n Enter the a[%d][%d] element : ", i, j);
            scanf("%d", &a[i][j]);
        }
    }
}
```

2

3

```
printf("\n The displayed Matrix is : \n");
for (i=0; i<row; i++)
{
    for (j=0; j<col; j++)
    {
        printf("%d", a[i][j]);
    }
    printf("\n");
}
getch();
```

Algorithm :-

- S-1 : ~~start~~
- S-2 : Declare multi-dimensional array
and scan columns i & j
- S-3 : display to enter no of rows
- S-4 : scan the same
- S-5 : similarly for columns
- ~~S-6 : use the for conditional for
accessing the array elements~~
- ~~S-7 : use another for loop for displaying
the array values.~~
- ~~S-8 : stop~~

Om
13/1/2020

