

050

Practical +

Aim: Programs to understand basic datatypes and

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 datatype\n");
    printf("Name of the student\n");
    scanf("%s", &name);
    printf("Address of the student\n");
    scanf("%s", &address);
    printf("Roll no of the student\n");
    scanf("%d", &rollno);
    printf("Percentage of student\n");
    scanf("%f", &percent);
    printf("Grade of student\n");
    scanf("%c", &grade);
}
```

OUTPUT:-

026

----- Demonstrate various datatypes -----

Name of Student

Yashvi

Address of Student

California

Roll no of Student

1706

Percentage of Student

89.04

Grade of Student

A

Mobile Number

1257901234

- Student name: Yashvi
- Student address: California
- Roll no of Student: 1706
- Percentage of Student: 89.04
- Grade of Student: A
- Mobile Number: 1257901234

print("Mobile no. is ");
 print("Laptop price is ");
 print("Student name is ");
 print("Student address is ");
 print("Unacademy price is ");
 print("Unacademy payment is ");
 print("Unacademy grade is ");
 print("Unacademy mobile no. is ");
 print("Unacademy price is ");

Q;

Solution

- 1) ~~print -> To find the average of 3 numbers~~
- 2) Take three inputs for calculating the average
say the numbers are 11, 22, 33.
- 3) Add the all values of all 3 and store the value in addition + 11 + 22 + 33
- 4) After that use the formula $\text{average} = \frac{\text{add}}{3}$
- 5) Print the average value.

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

```
{ int n1, n2, n3;
float avg;
clrscr();
printf("ENTER THREE NUMBERS:");
scanf("%d %d %d", &n1, &n2, &n3);
avg = (n1 + n2 + n3) / 3;
printf("AVERAGE: %.2f", avg);
getch();}
```

ENTER THREE NUMBERS:
10
20
30
AVERAGE : 20.0000

→ Aim: To find the area of triangle and circle

• Area of triangle :

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

```
void main()
```

```
{ float a, b, c, area;
clrscr();
printf("ENTER THE VALUES OF a, b, c");
scanf("%f %f %f", &a, &b, &c);
g = (a + b + c) / 2;
area = sqrt(g * (g - a) * (g - b) * (g - c));
}
```

Output: 850

ENTER THE VALUES OF A, B, C: 12
45

The area of a triangle is: 158.955765.

029

```
printf("The area of triangle is: %f\n", area);  
getch();
```

y

Area of circle:
#include <conio.h>
#include <stdio.h>

void main()

{
 float radius, area;

clrscr();

printf("Enter radius: \n");
scanf("%f", &radius);

area = 3.14 * radius * radius;

printf("Area of circle is %f \n", area);
getch();

Output:

Enter radius: 4

Area of circle is: 50.24.

eso

Logical ~~Program~~ to demonstrate the use of variable

Aim:- W.P. To demonstrate the use of variable
operators.

~~Program~~

Step 1

Start

Step 2: Read the input of integer from the user.

Step 3: Display the menu of the calculator like
addition, subtraction, multiplication, division

Step 4: Take input from the user at choice.

Step 5:

use switch case and work the logic
according to the menu.

Step 6:

break statement should be used after
(very case).

Step 7:

Default statement should also be displayed
if the choice is invalid

Step 8:

end.

Sample code:

```
#include <iostream.h>
#include <cmath.h>
void main()
{
```

```
    float num1, num2, result;
    int choice;
    cout << "1. Addition\n";
    cout << "2. Subtraction\n";
    cout << "3. Multiplication\n";
    cout << "4. Division\n";
    cout << "5. Exit\n";
    cout << "Enter your choice : ";
    cin >> choice;
    switch (choice)
    {
```

case 1:

```
    result = num1 + num2;
    cout << "Addition of two numbers is : " << result;
    break;
```

case 2:

```
    result = num1 - num2;
    cout << "Subtraction of two numbers is : " << result;
    break;
```

case 3:

```
    result = num1 * num2;
    cout << "Multiplication of two numbers is : " << result;
```

180

```
for break;
case 4:
    result = num1 / num2;
    printf("Division of two numbers:
break;
default:
    printf("Wrong choice");
getch();
```

W.A.P to demonstrate use of ternary operators.

Algorithm-

Step 1: Start.

Step 2: Initialize three variables suppose
a, b and c as integers.

Step 3: Check a number with other two
number using OR operator.

Step 4: Use ternary operator to check between two
numbers.

Step 5: Store the result in variable

Step 6: Display the result.

Step 7: End.

OUTPUT:-

ENTER TWO VALUES : 10 6

032

1. Addition

2. Subtraction

3. Multiplication

4. Division

ENTER YOUR CHOICE : 3

Multiplication of two numbers : 60.0000

080

OUTPUT:

The biggest number is: 100

033

SOURCE CODE:-

```
#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();
}
```

Jawad
19/10/2020

222

Fraction 3

Print fractions on condition statements

1. write a program to find the odd and even numbers

ALGORITHM:

Step 1 : Start

Step 2 : Read an integer or input from the user

Step 3 : Use IF condition statement to check the

input is even or odd.

Step 4 : Display the result

Step 5 : End

Source code:

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

printf("%d is even number", a);

224

OUTPUT:

enter a number: 2

it is even number

Flowchart

Do

100
101
102
103
104
105
106

Even num

Odd num

End

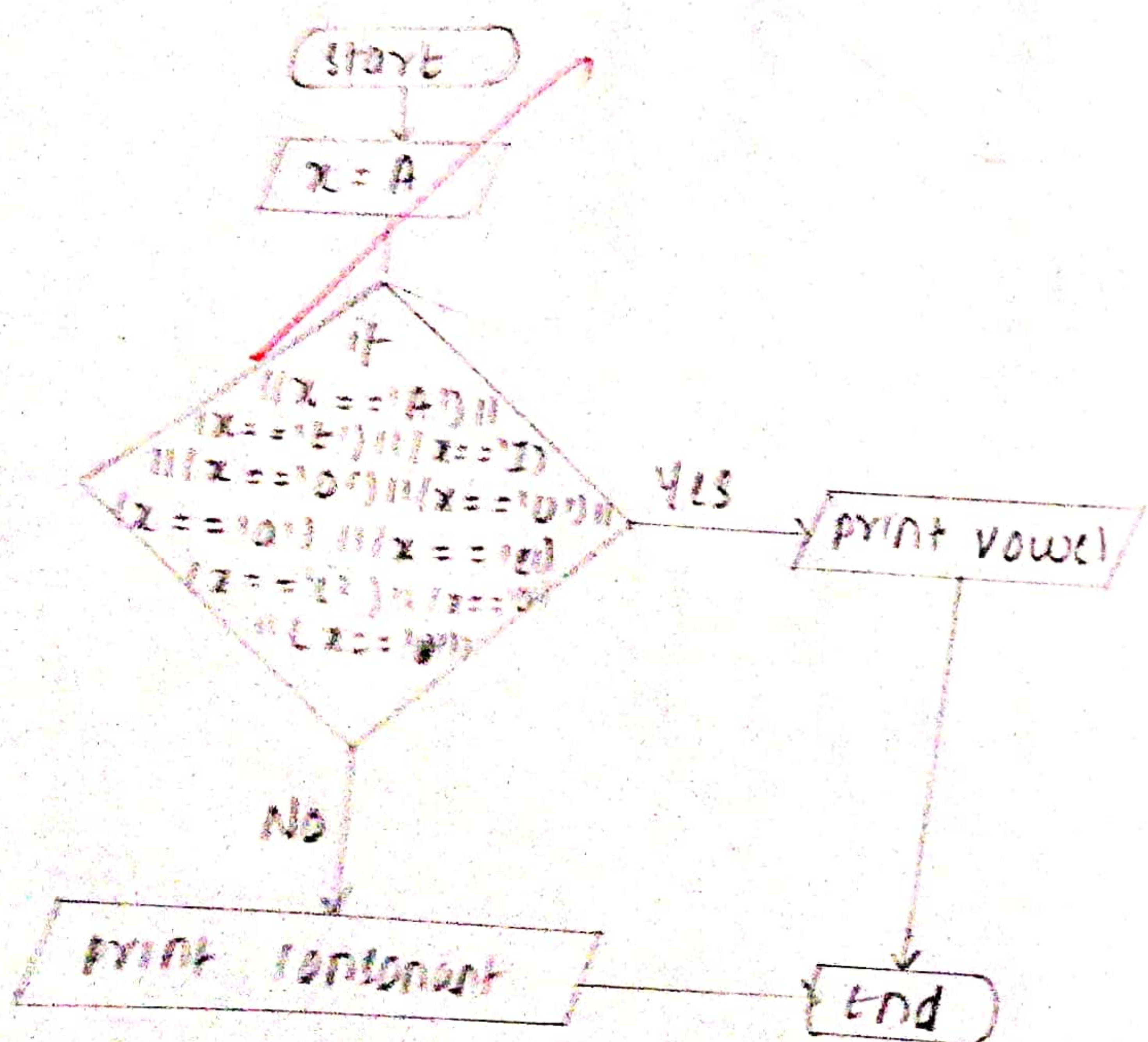
Q30

OUTPUT :

Enter an alphabet : A
A is a vowel

Enter an alphabet : R
R is an constant

FLOWCHART



Q35

```
y  
else  
{  
    print " %d is an odd number", a;  
}  
getch();  
y
```

2. Write a program to check whether entered characters is a vowel or not.

Algorithm:

Step 1: Start

Step 2: Read a character

Step 3: Compare the character with vowels both upper case and lowercase.

Step 4: Display the result.

Step 5: End

SOURCE CODE:-

```
#include <iostream.h>  
#include <stdio.h>  
void main ()  
{  
    char x;
```

Q80

```
clrscr();
printf("Enter an alphabet : ");
scanf("%c", &x);
if ((x == 'a') || (x == 'e') || (x == 'i') || (x == 'o') || (x == 'u'))
    printf("%c is a vowel", x);
else
    printf("%c is a constant", x);
getch();
```

Q Write a program to take a single digit number and display in words

Algorithm:

Step 1: Start

Step 2: Read an integer

Step 3: Use switch case to convert the digit in words

036

Output:

Enter a digit:
Five

037

Step 4:- Display the result according to the
steps. End

Source code:

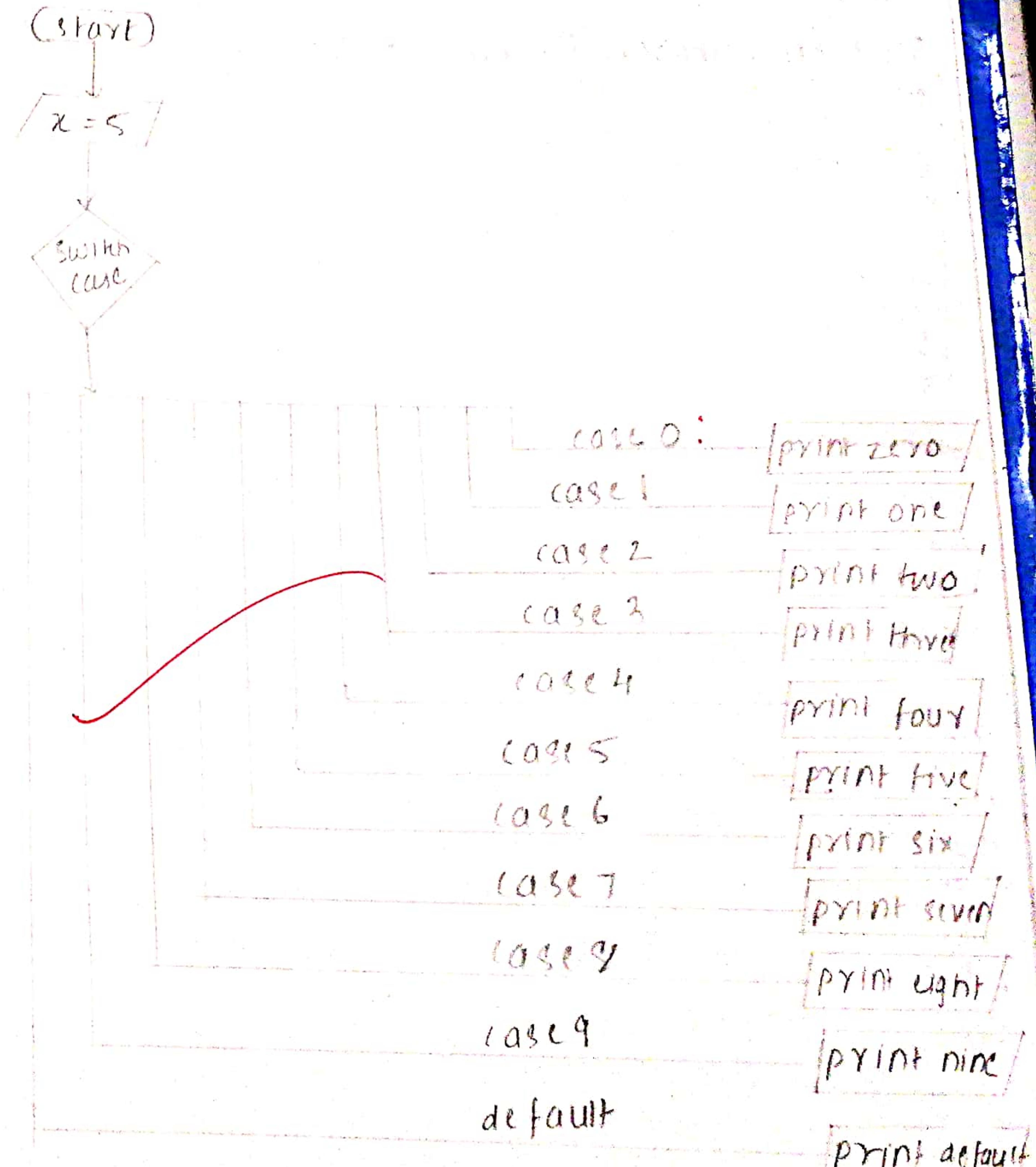
```
#include <conio.h>
#include <stdio.h>
void main()
{
    int x;
    clrscr();
    printf("Enter a digit: ");
    scanf("%d", &x);
    switch(x)
    {
        case 0:
            printf("Zero");
            break;
        case 1:
            printf("One");
            break;
        case 2:
            printf("Two");
            break;
        case 3:
            printf("Three");
            break;
    }
}
```

580

```
break;  
case 4:  
    printf("Four");  
    break;  
case 5:  
    printf("Five");  
    break;  
case 6:  
    printf("Six");  
    break;  
case 7:  
    printf("Seven");  
    break;  
case 8:  
    printf("Eight");  
    break;  
case 9:  
    printf("Nine");  
    break;  
default:  
    printf("Invalid Number");  
getch();
```

Suraj
24/01/2020

038



OUTPUT

All even numbers from 1 to 50 are:

2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
34
36
38
40
42
44
46
48
50

Practical 4

Aim:- Write a program to print even numbers between 1-50 using while loop.

SOURCE CODE:

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

880

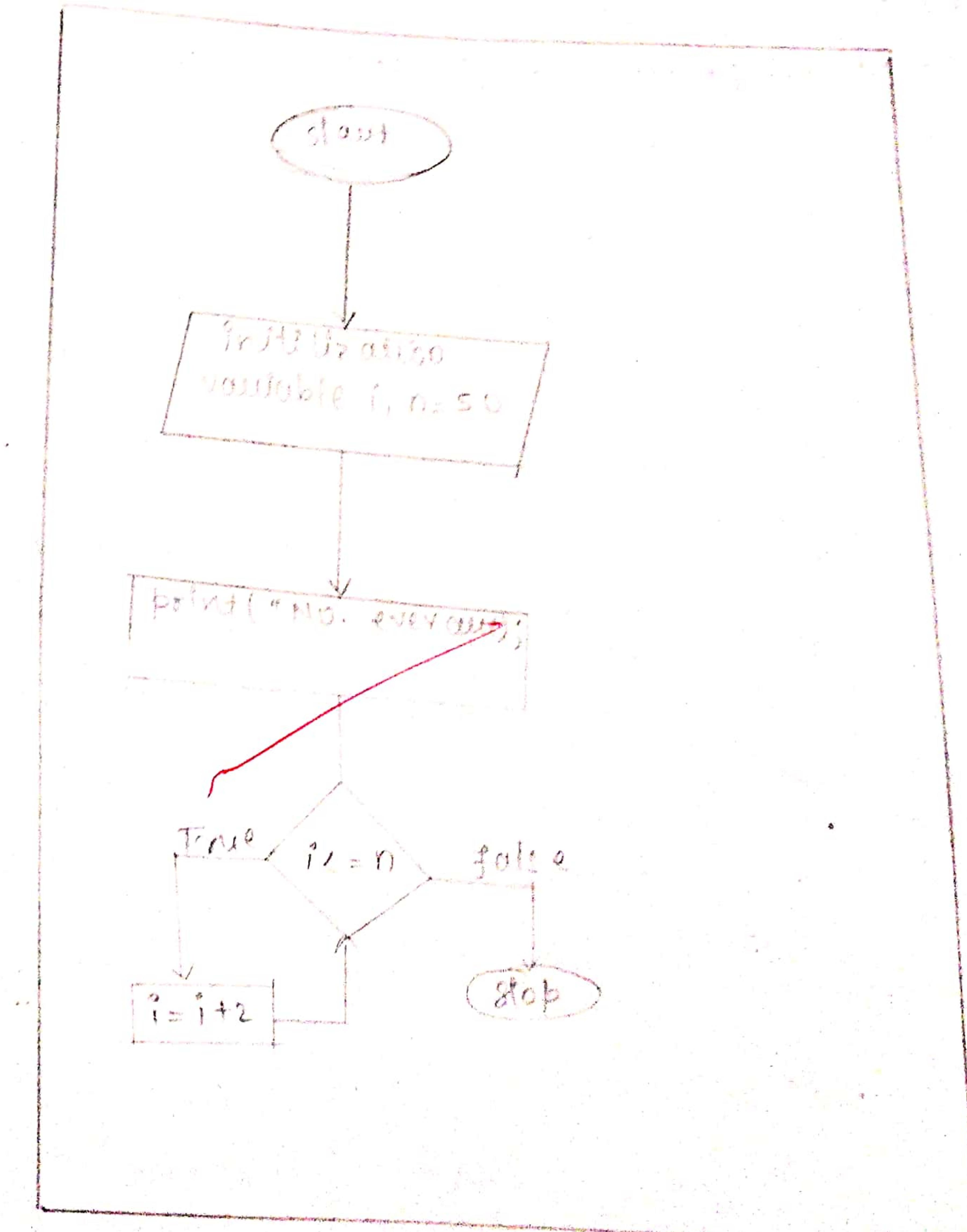
Algorithm:-

Steps:

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

FLOWCHART:-

040



040

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

041

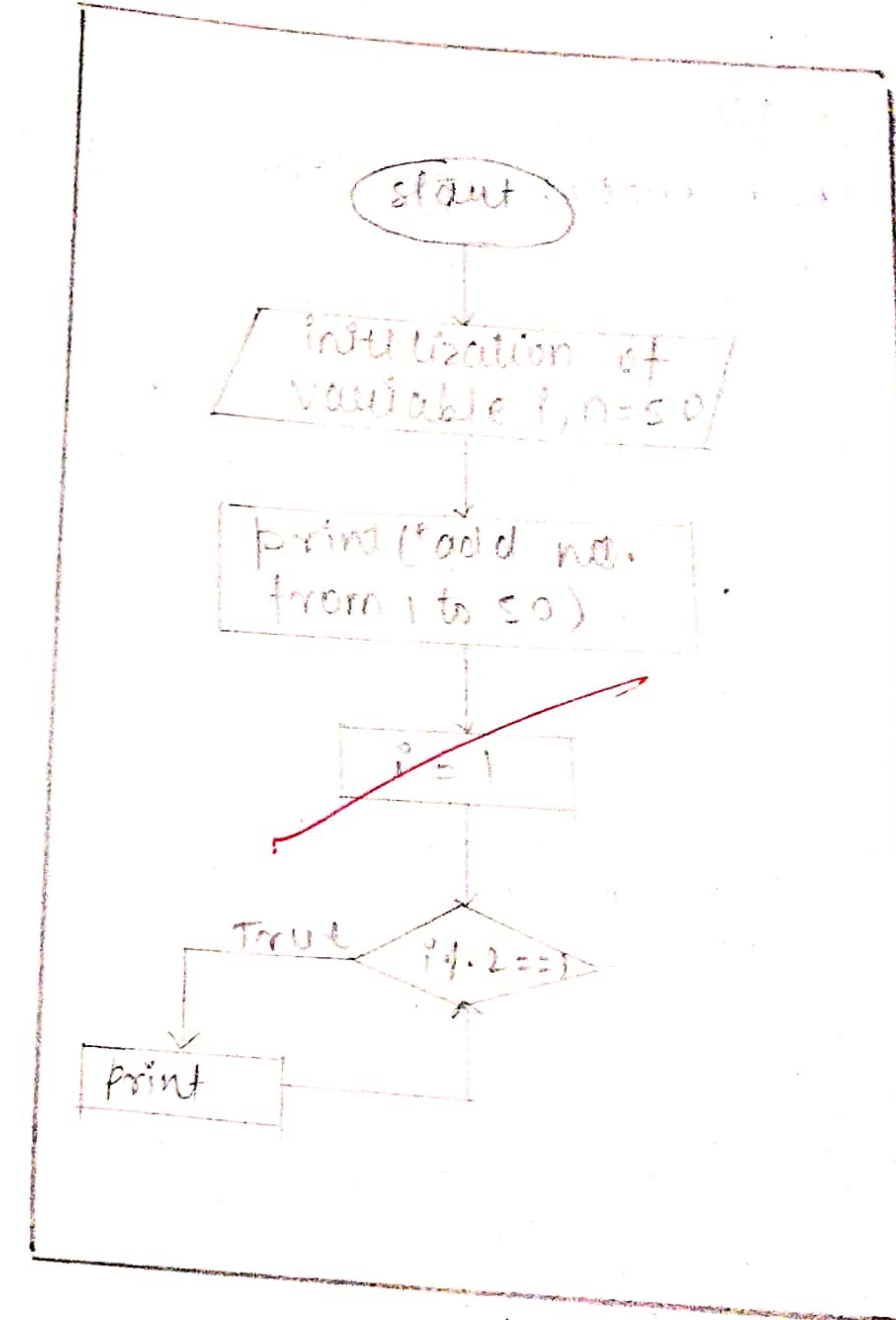
(b) Aim:- Write a C program to print odd number between 1-50 using do-while loop

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();
}
```

ALGORITHMSteps:

- 1) Start
- 2) Initialize two static variable $n=50, i=1;$
- 3) Use do while loop for iterates from 1 to 50
- 4) Use if condition statement to check whether given number is even or odd
- 5) Increment the values of $i+1$
- 6) Display the appropriate output
- 7) Stop.

FLOWCHARTS:-

OUTPUT:

Enter the range 10
sum of all even numbers upto the range are: 30

(C) Aim:- Write a C program to print sum of all even number between 1 to n using for loop.

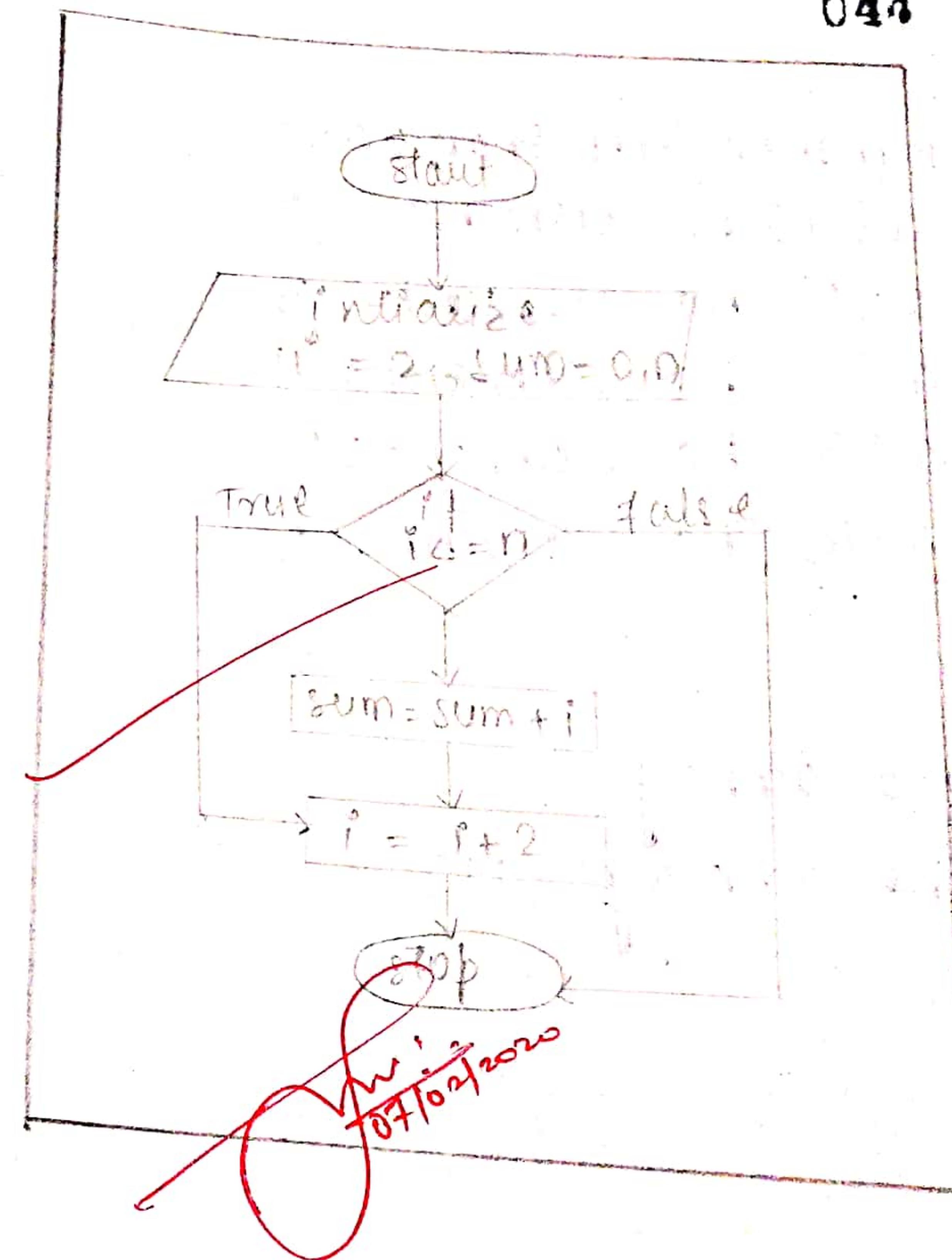
SOURCE CODE:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int i, n, sum = 0;
    clrscr();
    printf("Enter the range :");
    scanf("%d", &n);
    for (i = 2, i <= n, i = i + 2)
    {
        sum = sum + i;
    }
    printf("sum of all even numbers upto the range are : ", sum);
    getch();
}
```

ALGORITHM:

steps

- (1) Start
- (2) Initialize three variables from these two is static
one is dynamic $i = 2$; $sum = 0$; N
- (3) Use for loop for check the even number, &
print upto the given range
- (4) Add current even number to sum
- (5) Display the appropriate output
- (6) STOP



卷之三

10. *Leucosia* *leucostoma* (Fabricius) (Fig. 10)

A 5x5 grid of 25 small, colorful, abstract floral wreaths arranged in five rows and five columns. Each wreath is composed of various flowers and leaves in shades of pink, purple, yellow, and green, set against a white background.

11

After the first few days of the new year, I am still not able to get into the swing of things. I have been trying to make time for myself, but it's hard to find the motivation. I feel like I'm constantly running on empty, and I'm not sure how to change that.

July 19, 1904.

1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024

in the same way as the other species.

1996-1997
1997-1998
1998-1999
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024

1000 1000 1000 1000

1996-1997
1997-1998
1998-1999
1999-2000

City Hall

1000 100 10 1 0.1

to the right of the center of the page. The first two lines of the poem are written in a cursive script, while the third line is in a more formal, printed-style font.

How to Write a Book

CLAP! CLAP! CLAP! CLAP!

print(f"{''.join([f'{i}{j}' for i in range(1, 10) for j in range(1, 10)])} = {sum([int(i)*int(j) for i in range(1, 10) for j in range(1, 10)]})")

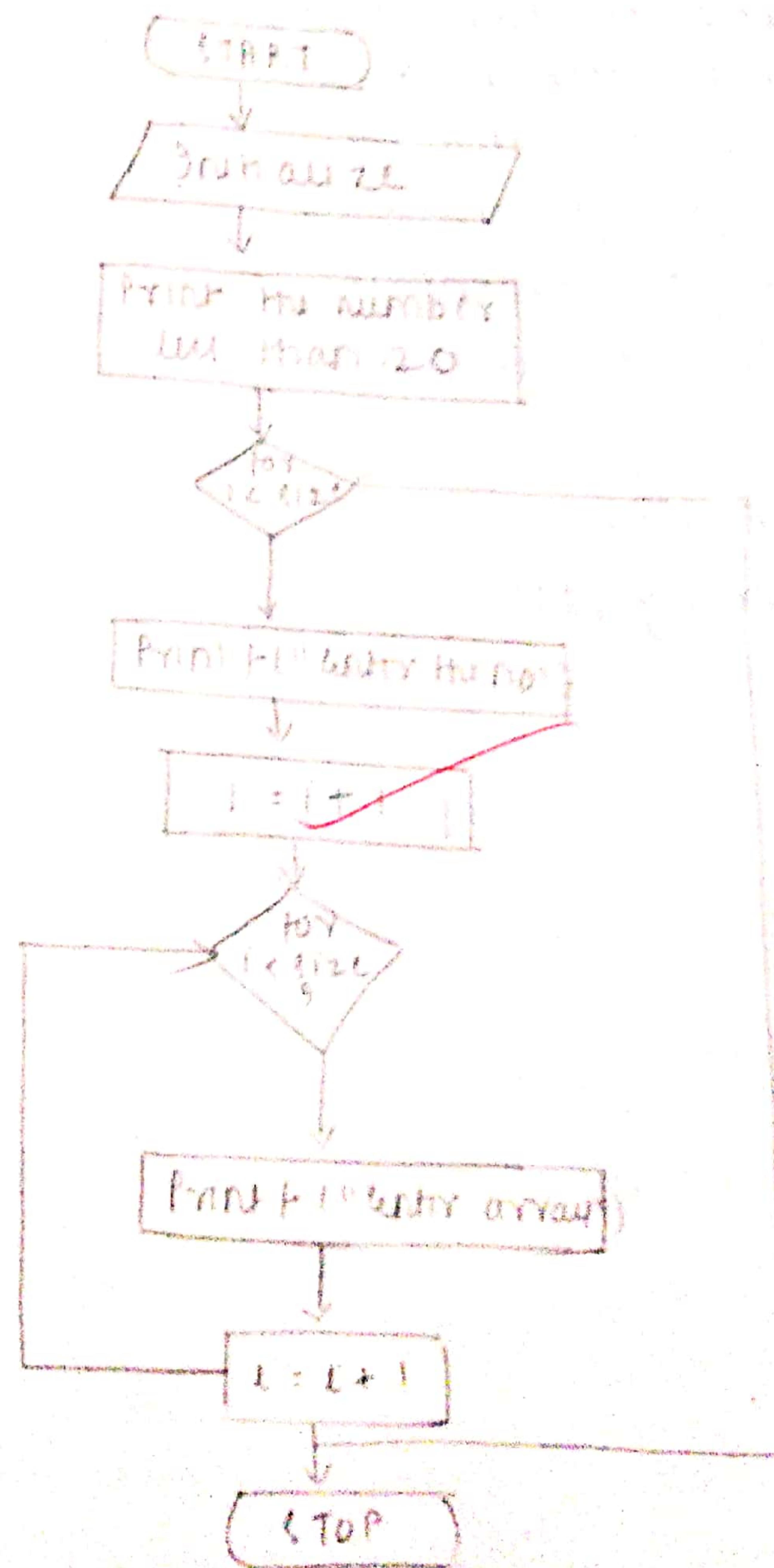
for the first time in the history of the world.

With the light faded I could

卷之三

- Algorithm:
- Start
- Declare an array of user specified size.
- Initialize two variables of integer type i.e. size and,
- Take range from the user that has to be printed, which should be less than the specified size of an array.
- Use range for condition of loop for printing the elements in arrays according to its marking.
- Print the appropriate output
- STOP.

FLOWCHART:



040

OUTPUT
Enter the number less than 20 : 5
Enter the a[0] no element : 2
Enter the a[1] no element : 3
Enter the a[2] no element : 1
Enter the a[3] no element : 2
Enter the a[4] no element : 3

The displayed array :

sum of the array [11]

047

Aim: To find the sum of elements of the arrays.

SOURCE CODE:-

```
#include <conio.h>
#include <stdio.h>
void main()
{
    int a[20], sum = 0, size, i, j;
    clrscr();
    printf("Enter number less than 20 : ");
    scanf("%d", &size);
    for (i = 0; i < size; i++)
    {
        printf("Enter the a[%d] number ", i);
        scanf("%d", &a[i]);
        sum = sum + a[i];
    }
    printf("\n The displayed array is : ");
    for (i = 0; i < size; i++)
    {
        printf("%d ", a[i]);
    }
    printf("\n Sum of the arrays : %d", sum);
    getch();
```

ALGORITHM:-

- Start
- Declare an array of integer type of user specified size.
- Initialize three variable one of the static type and two of dynamic type, i.e. sum=0, i, size.
- Take range from the user, that is to be printed and add which should be less than the specified size of an array.
- Use Nested for conditional loop.
- Adding the elements of the array by print.
- STOP.

(C) Write a program to find out Fibonacci series using array.

CODE:-

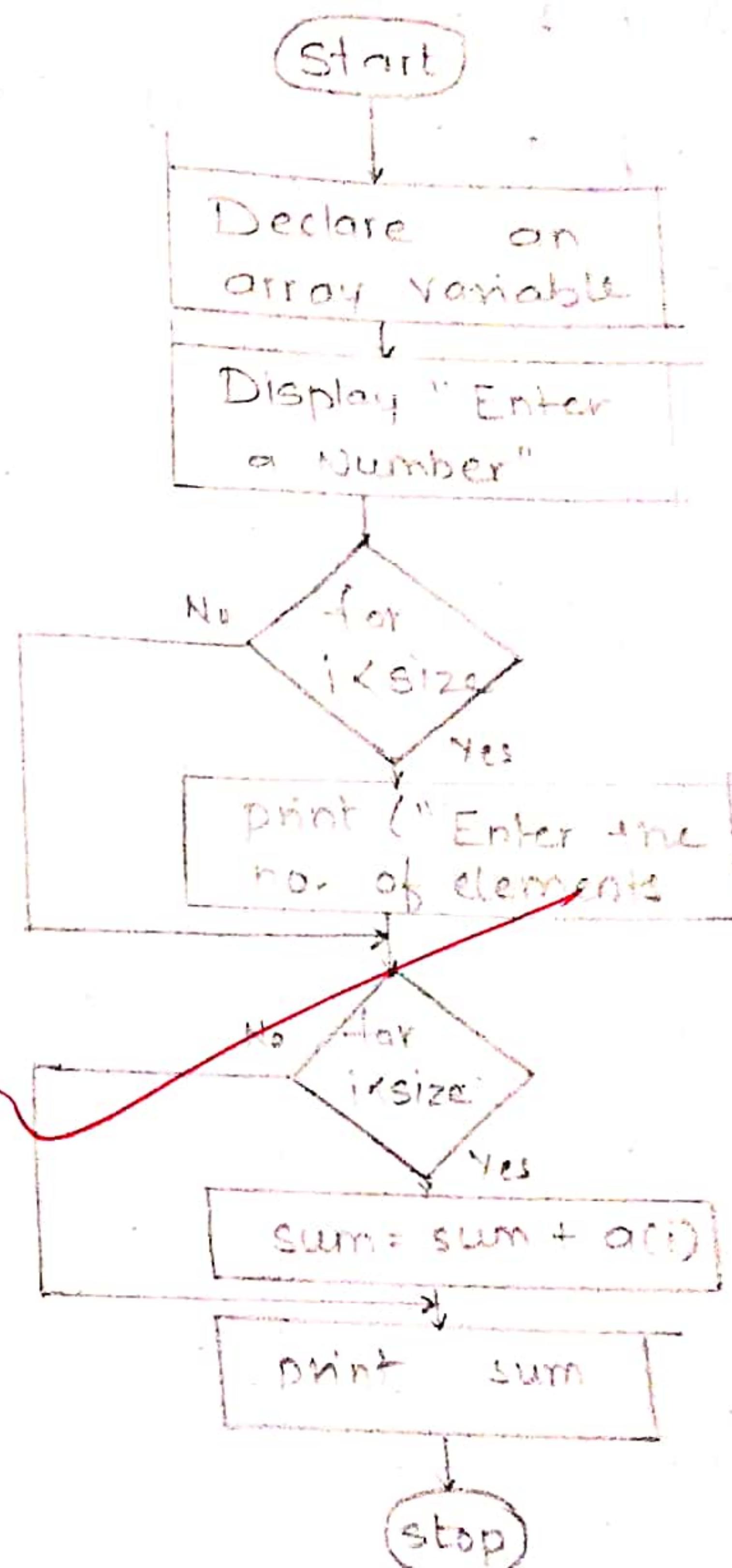
```
#include <stdio.h>
```

```
#include
```

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

```
void main()
```

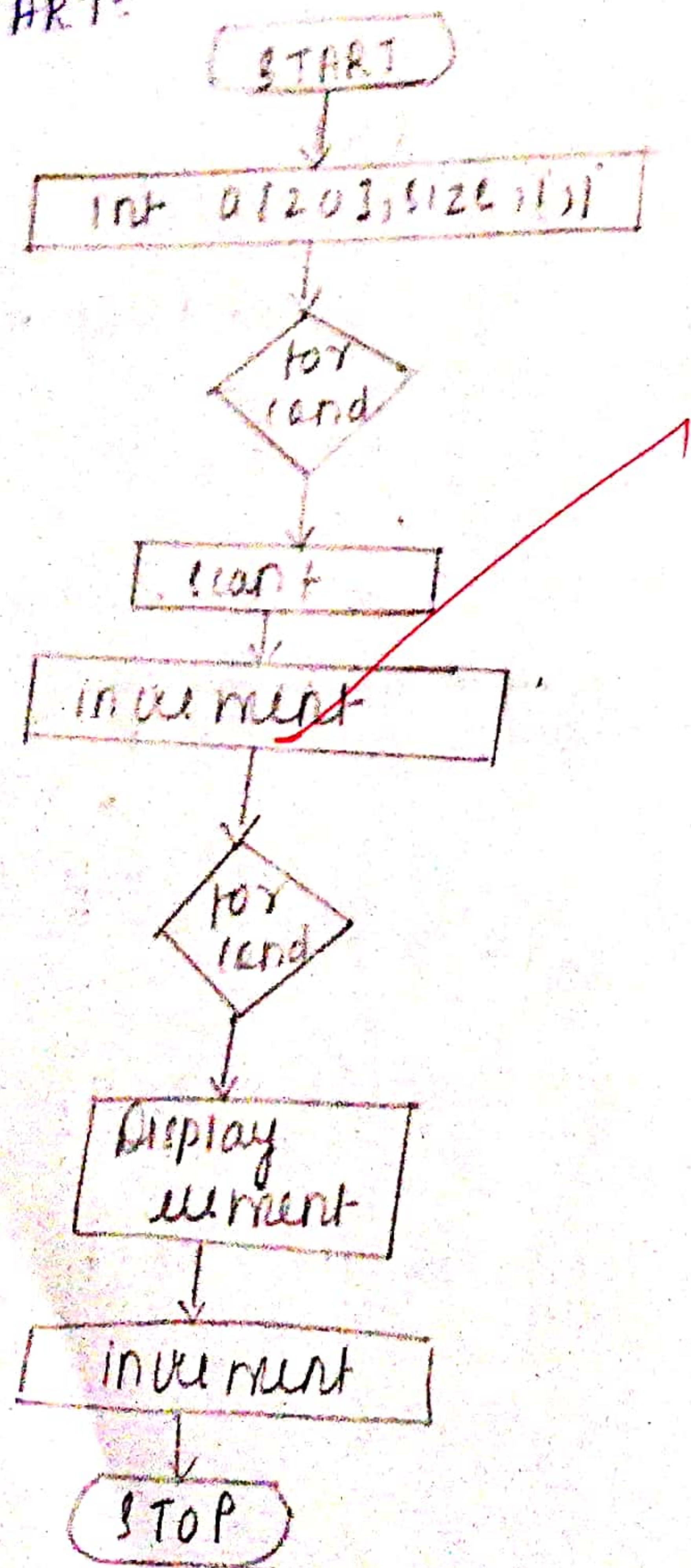
```
{  
    int a[20], n, i;  
    clrscr();
```



OUTPUT : 820

enter the no of terms : 7
The Fibonacci series upto 7 terms is
0 1 1 2 3 5 8

FLOWCHART:



Q49

```
printf("Enter the no of terms and :");  
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 terms is %d", n, a[n-1]);  
for (i=0; i < n; i++)  
{  
    printf("%d ", a[i]);  
}  
getch();
```

ALGORITHM:-

- START
- Declare an array of int type of specified size by the user.
- Initialize two variable of dynamic variable i.e. i, n
- Take the no of terms from the user, up to what the no should be printed.
- Initialize indexing value of a[0] = 0 & a[1] for printing Fibonacci series.
- Using for condition loop for looping of

Q8

- indexing value of print array is equal to previous indexing value of f
- print the fibonacci series upto the term given by the user
- use for loop for printing the output in tabular form.
- (Total) 10 marks

(a) Write WAP to represent a multidimensional array in matrix form.

```
loop:  
#include <stdio.h>  
#include <conio.h>  
void main()  
{  
    int a[20][20];  
    int row, col, i, j;  
    clrscr();  
    printf("Enter no. of rows: ");  
    scanf("%d", &row);  
    printf("Enter no. of columns: ");  
    scanf("%d", &col);  
    for (i = 0; i < row; i++)  
    {  
        for (j = 0; j < col; j++)  
        {  
            a[i][j] = i + j;  
        }  
    }  
    for (i = 0; i < row; i++)  
    {  
        for (j = 0; j < col; j++)  
        {  
            printf("%d ", a[i][j]);  
        }  
        printf("\n");  
    }  
}
```

OUTPUT:

Enter the no. of rows 2
Enter the no. of columns 2
Enter the a[0][0] no. elements 1
Enter the a[0][1] no. elements 5
Enter the a[1][0] no. elements 4
Enter the a[1][1] no. elements 7

The displayed matrix is
1 6
4 2 .

Q8

Q5

Print elements of a list in reverse order
using different methods.

Print all the elements of a list in reverse order using a for loop (for i in range(len(list)-1, -1, -1))

Print all the elements of a list in reverse order using a while loop (i = len(list) - 1)

~~Print all the elements of a list in reverse order using a for loop (for i in range(len(list)-1, -1, -1))~~

~~getch()~~

q

ALGORITHM

• START

• Declare multi-dimensional array and new dimension
4 j

- Display the unhy no of rows
- Scan the same
- Use the for condition on all four dimensions of array
- Use another for loop for displaying array values
- STOP