

Algorithms & Flowcharts

1) Hello world:-

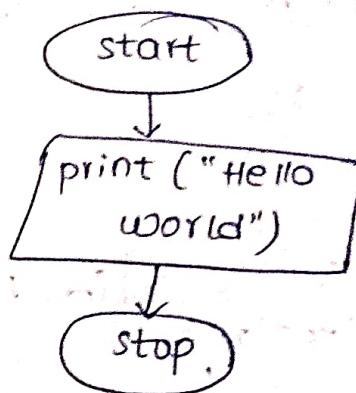
algorithm:-

Step 1:- start

Step 2: print ("HelloWorld")

Step 3:- stop

flow chart



2) Sum of two numbers

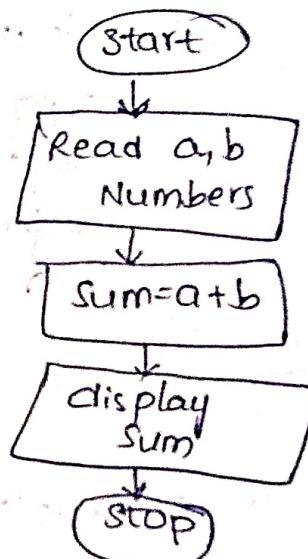
Step 1:- start

Step 2: Read a, b numbers

Step 3:- Sum = a+b

Step 4 : display sum,

Step 5:- stop



3) Even or odd

Step 1:- start

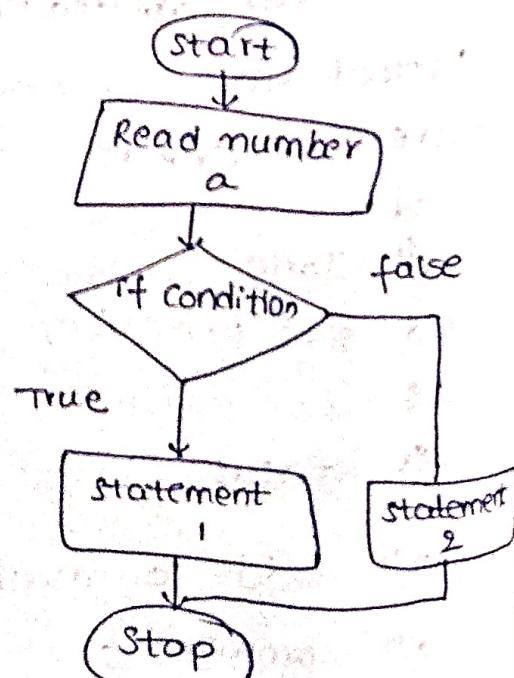
Step 2: Read a number

Step 3:- check whether it is even

Step 4 : If yes
display even number

Step 5 : else display it is odd number

Step 6 : stop



④ Area of Rectangle:-

Step 1:- start

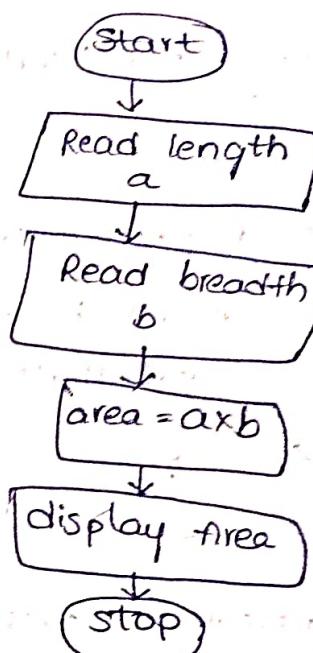
Step 2:- Read length 'a'

Step 3:- Read breadth 'b'

Step 4:- Area = $a \times b$

Step 5:- display Area

Step 6:- stop



⑤ leap year :-

Step 1:- Start

Step 2:- Read year

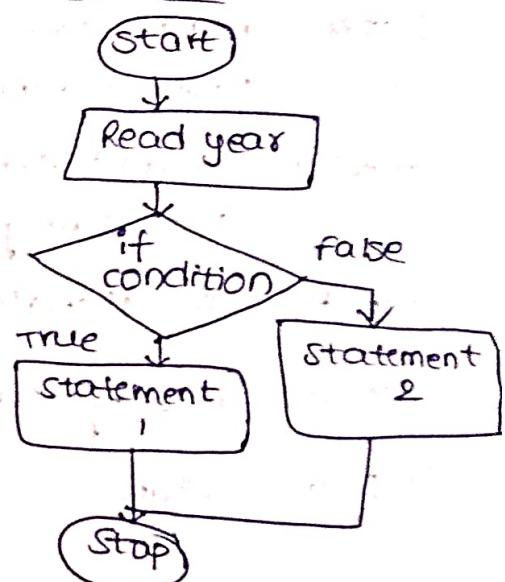
Step 3:- check year is leap year

Step 4 :- If yes print leap year

Step 5:- else it is not a leap year

Step 6 : stop

flowchart



⑥ Swapping of two Numbers:-

Step 1 :- Start

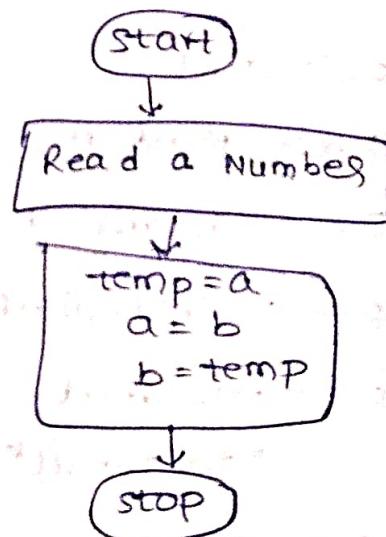
Step 2:- Read a, b numbers

Step 3:- assign a to temp variable

Step 4:- assign b to a

Step 5:- assign temp to b

Step 6 : stop



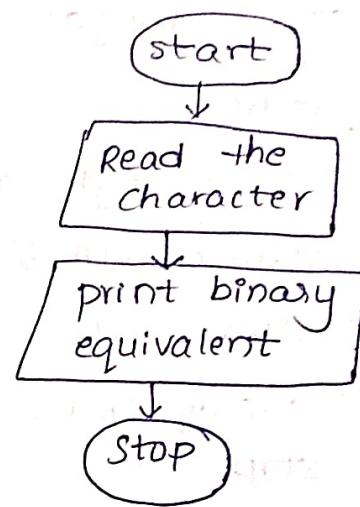
7) finding ascii value:-

Step 1:- start

Step 2:- Read the character ch

Step 3:- print binary equivalent.

Step 4:- stop



8) Generation of password-

Step 1:- start

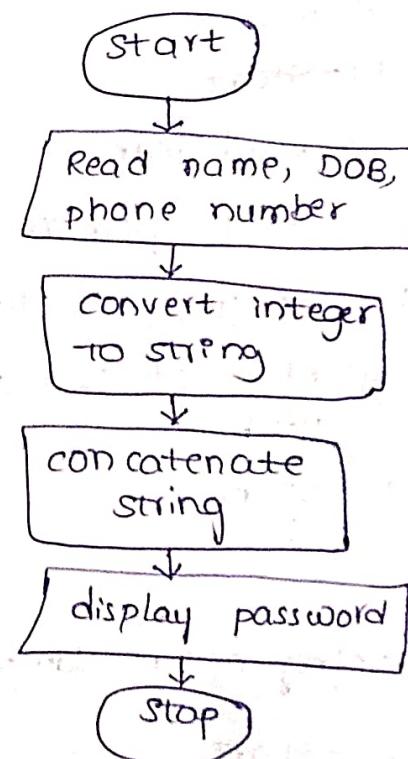
Step 2:- Read name, DOB, phone number

Step 3:- convert integer to string.

Step 4 :- concatenate strings

Step 5 :- display password

Step 6 :- stop.



9) Factorial

Step 1:- start

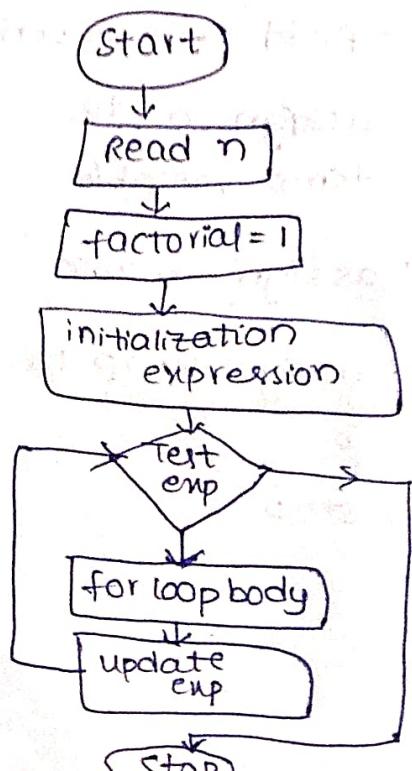
Step 2:- Read n

Step 3:- factorial=1

Step 4 :- initialization

Step 5:- factorial
= factorial * i

Step 6 :- end



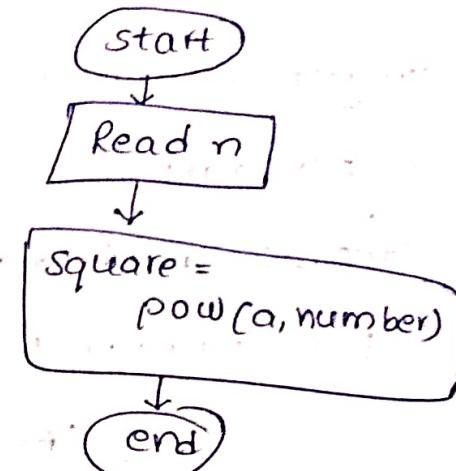
10) square of the number:-

Step 1:- start

Step 2:- Read a

Step 3 :- square of the number

Step 4 :- stop



11) area of triangle using heron's formula

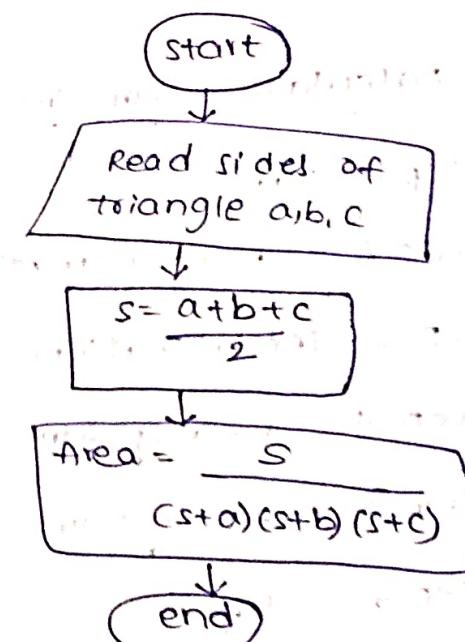
Step 1:- start

Step 2:- Read sides of triangle a,b,c

Step 3 :- Area $A = \frac{s(s-a)(s-b)(s-c)}{2}$

Step 4 :- Area $A = \frac{s}{(s+a)(s+b)(s+c)}$

Step 5 :- end



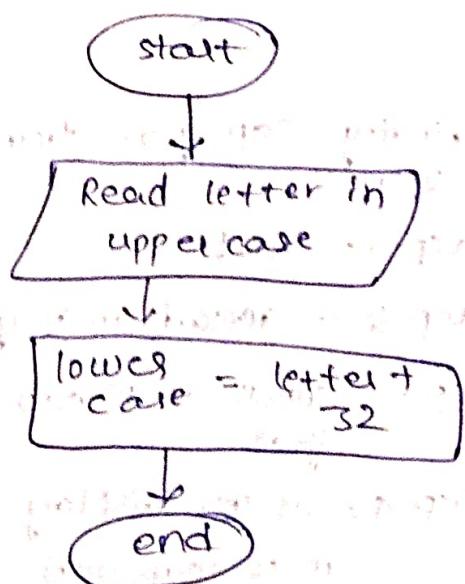
12) print character in lowercase:-

Step 1:- start

Step 2 :- Read letter in uppercase

Step 3 :- convert the letter in lowercase

Step 4 :- stop



13) convert farenheat to celsius-

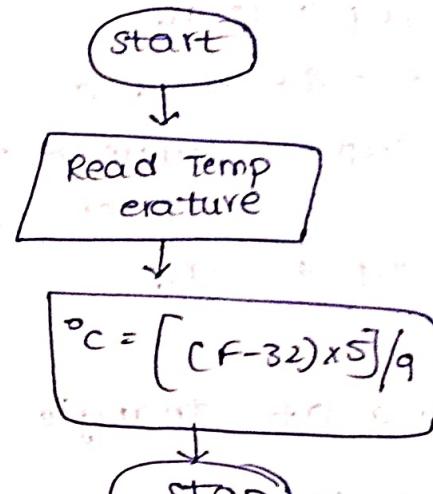
Step 1:- start

Step 2:- Read temperature

Step 3:- farenheat to

$$\text{celsius} = [(F - 32) \times 5]/9.$$

Step 4:- stop.



A) calculate sum of 10 Numbers

Step 1:- start

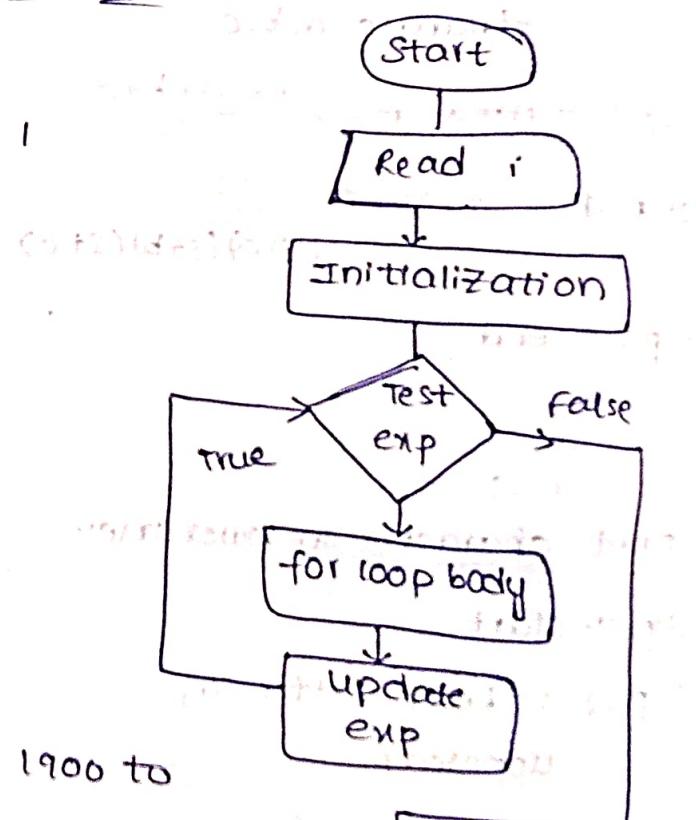
Step 2:- read number i

Step 3:- initialization

Step 4:- finding sum

Step 5:- display sum

Step 6:- stop



15) finding leap years from 1900 to 2100

Step 1:- start

Step 2:- read m,n years

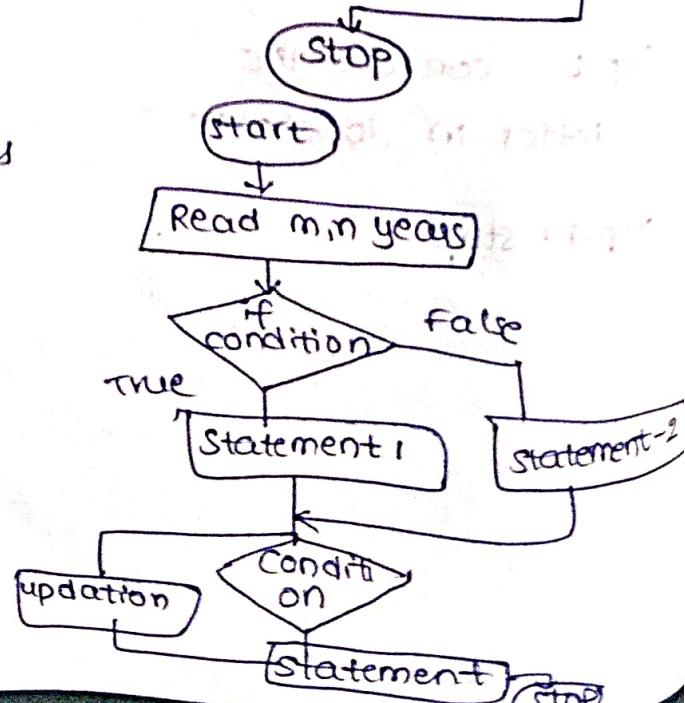
Step 3:- check m is leap year

Step 4:- If yes display m is leap year

Step 5:- else m is not leap year.

Step 6:- checking upto n

Step 7:- stop



16) Multiplication table-

Step 1:- Start ;

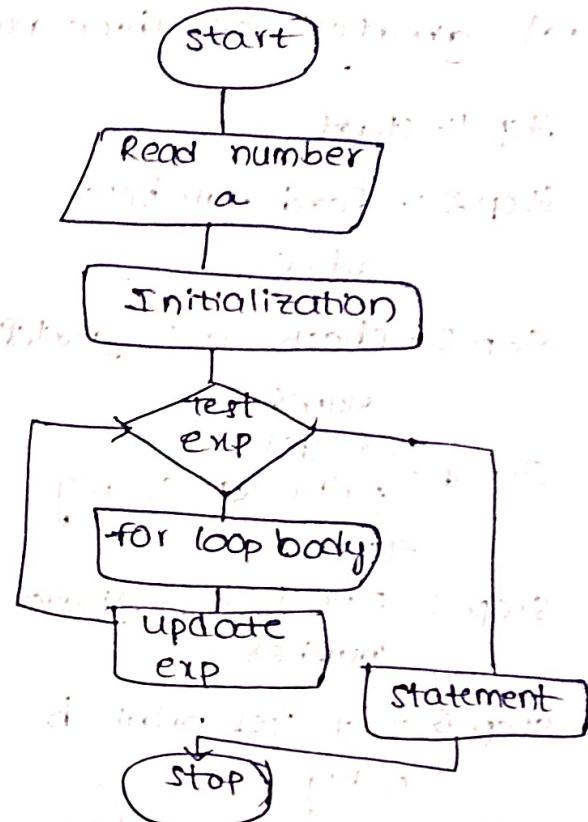
Step 2:- Read number a

Step 3:- initialization

Step 4 :- doing multiplication

Step 5 :- display table

Step 6:- stop ;



17) convert float to integer:-

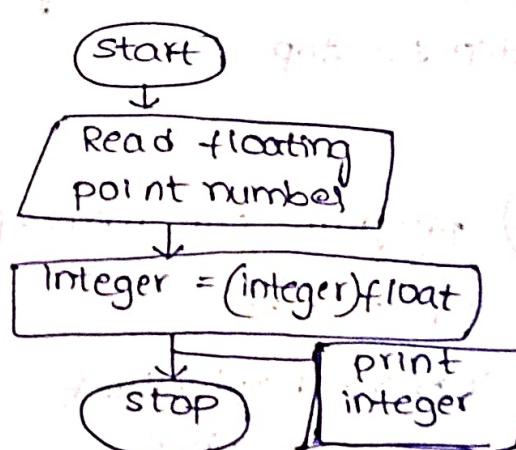
Step 1:- start

Step 2:- Read floating point number float

Step 3:- Integer -(integer) float

Step 4 : display integer

Step 5:- stop;



18) program to print last digit-

Step 1:- start

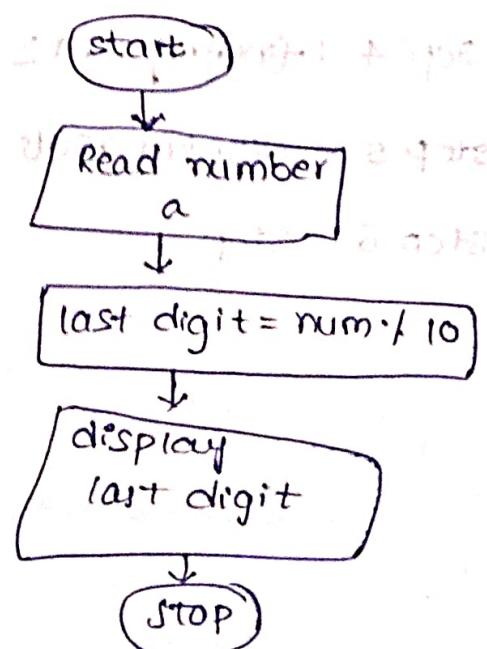
Step 2:- Read number

a

Step 3:- finding the last digit

Step 4:- display last digit

Step 5:- Stop



19) greatest of three numbers:-

Step 1:- start

Step 2:- Read numbers

a,b,c

Step 3:- check a is greater

number

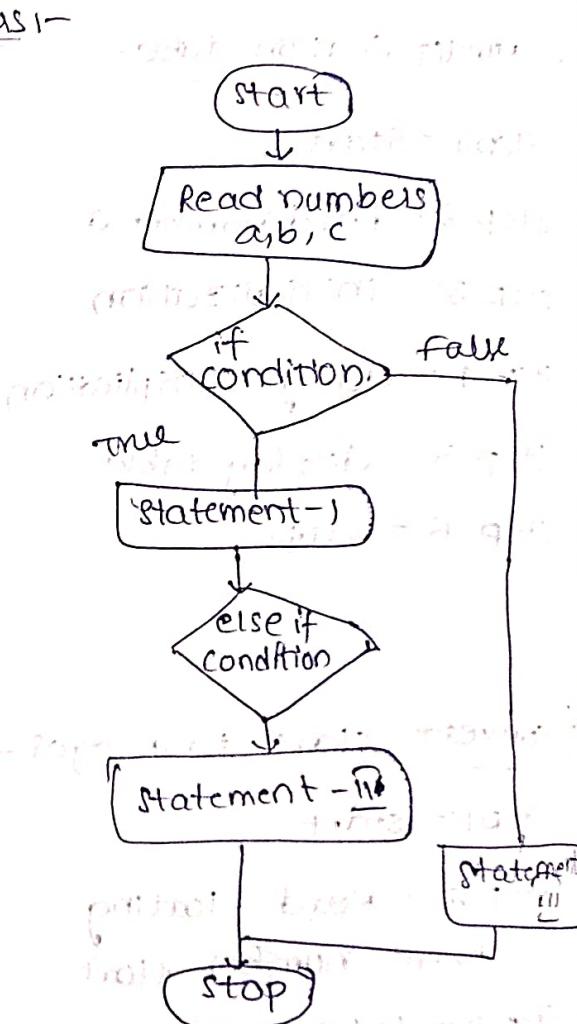
If yes print a is big
else if

Step 5:- check b is greater
number

Step 6:- if yes print b
is big

Step 7:- print c is big

Step 8:- Stop



20) program for roots finding:-

Step 1:- start

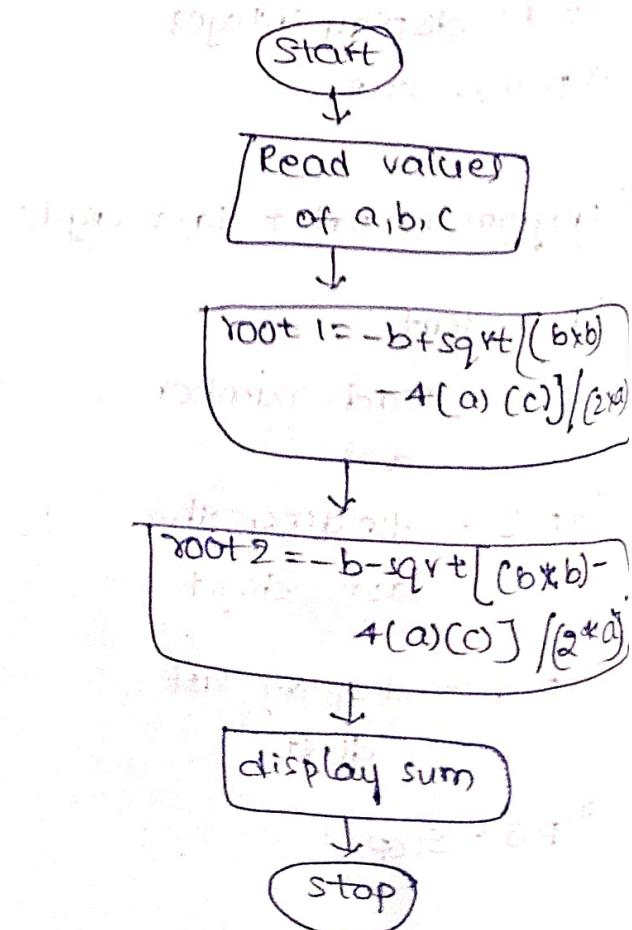
Step 2:- Read values
of a,b,c

Step 3:- Finding root1

Step 4 :- finding root2

Step 5 :- display roots

Step 6:- Stop



21) area of circle:-

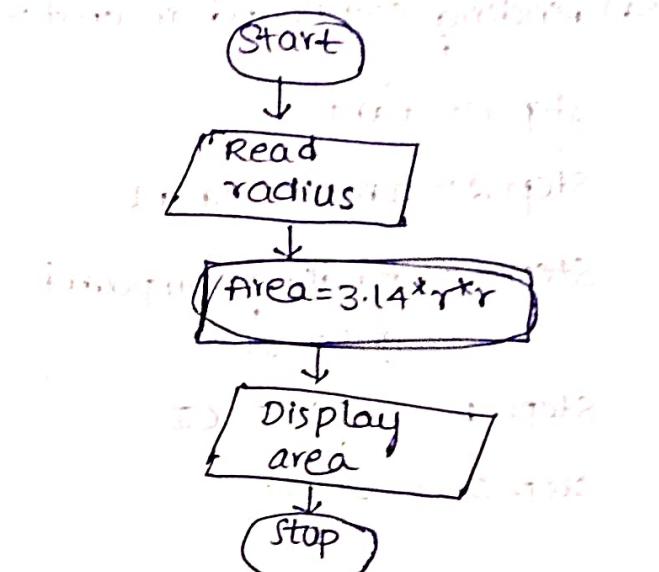
Step 1 :- Start

Step 2 :- Read radius

Step 3 :- calculate area

Step 4 :- display area

Step 5 :- Stop



22)

Step 1 :- Start

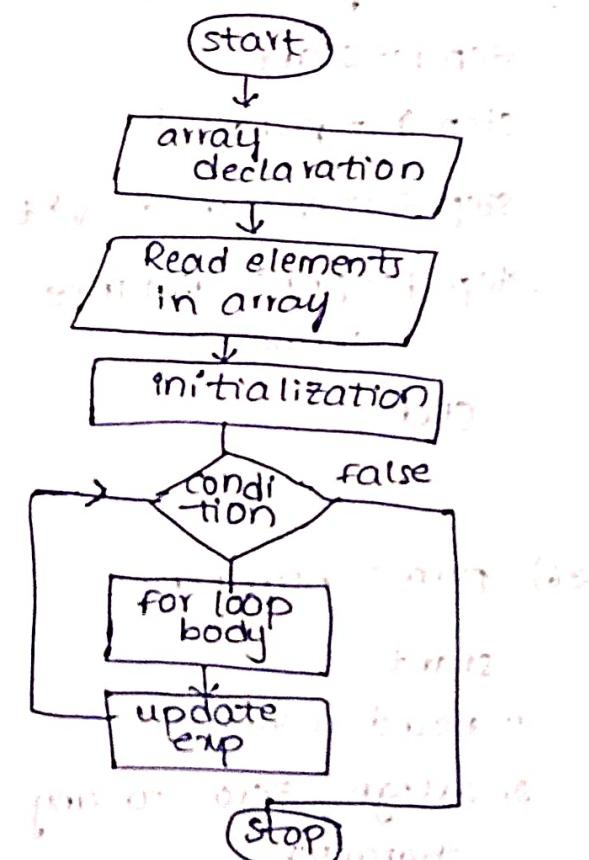
Step 2 :- array declaration

Step 3 :- Read elements in array

Step 4 :- finding average of array elements

Step 5 :- Display average

Step 6 :- Stop



23) finding simple interest:-

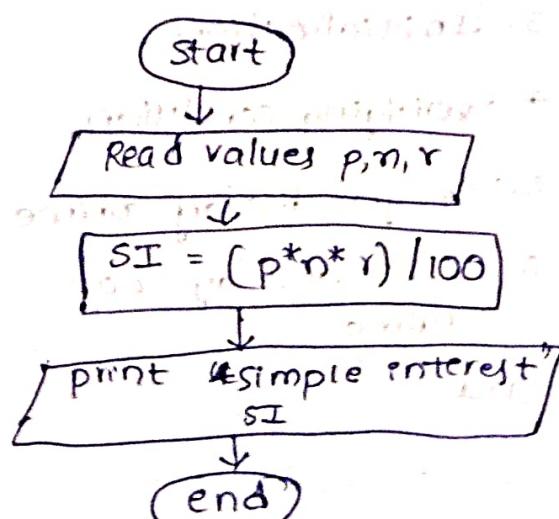
Step 1 :- Start

Step 2 :- Input values

Step 3 :- finding simple interest

Step 4 :- Display SI

Step 5 :- Stop



24) Finding compound interest :-

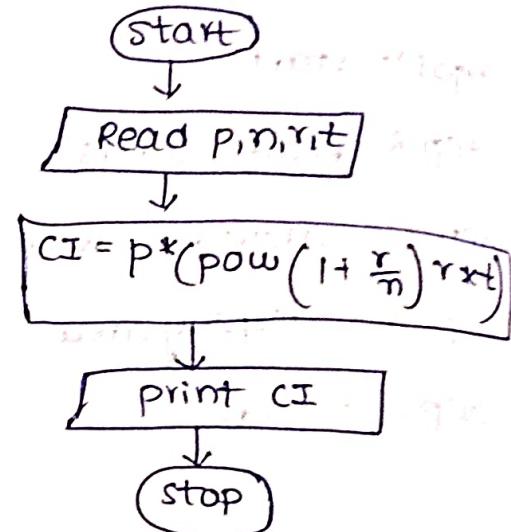
Step 1:- start

Step 2:- Input p,n,r,t

Step 3:- finding compound interest

Step 4 :- print CI

Step 5:- stop



25) finding distance travelled by object:-

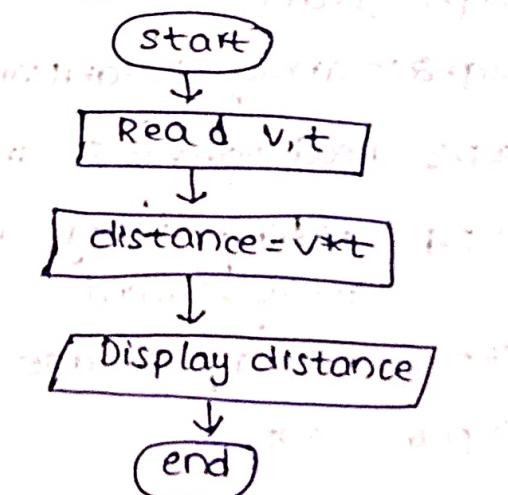
Step 1:- start

Step 2:- Read v,t

Step 3:- distance = v*t

Step 4:- print distance
value is

end



26) prime number:-

start

1. Read n value

2. assign zero to any character

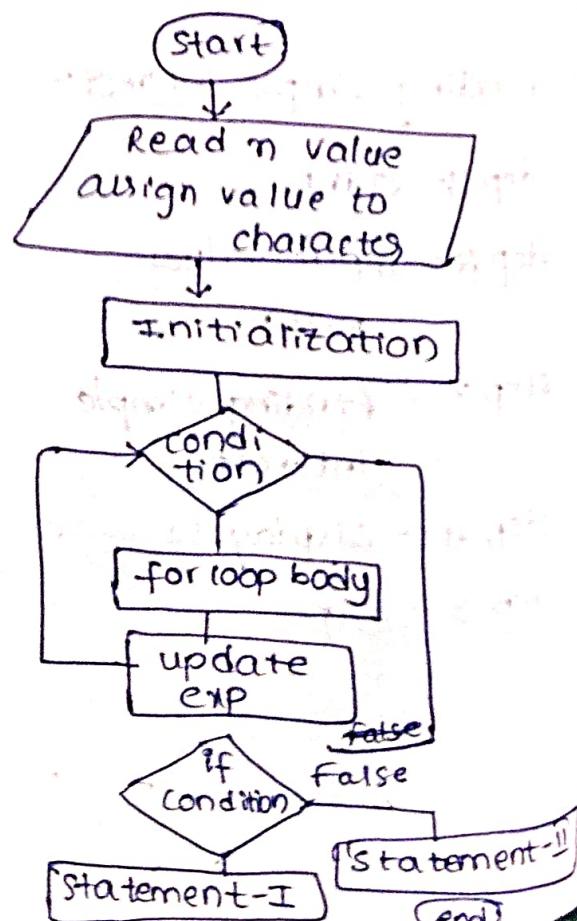
3. Initialization

4. Verifying condition

5. If yes display prime

6. Else display not prime

end



27) finding small numbers in array

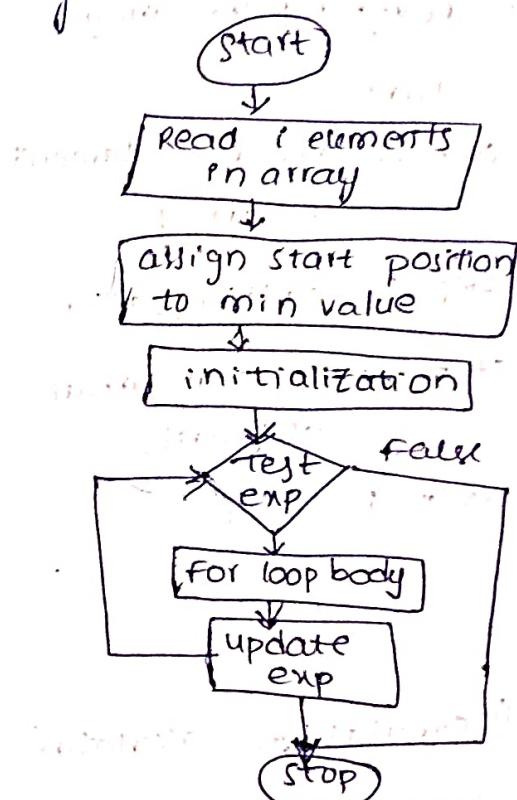
Start

Step 1:- Read i elements in array

Step 2:- assign starting position to min value

Step 3:- finding min value

Step 4 :- Display min value
end



28) max element in array

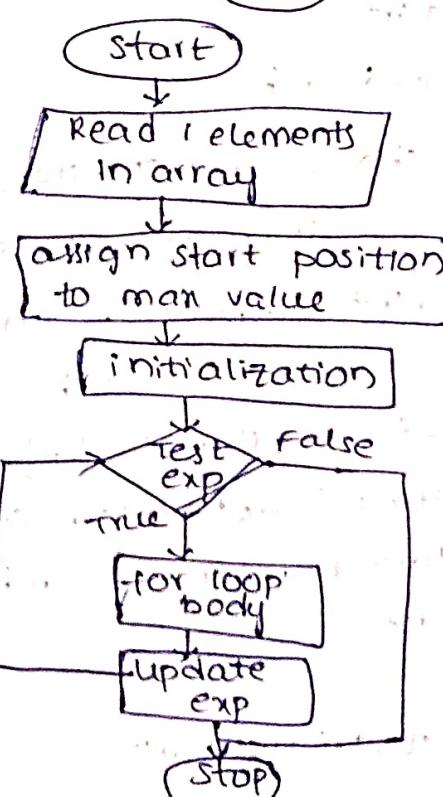
Start

Step 1:- Read i elements in array

Step 2:- assign starting position to max value

Step 3:- finding max value

Step 4 :- Display max value
stop



29) palindrome

Step 1:- start

Step 2:- Read n value

Step 3 :- t=n

Step 4 :- while ($n > 0$)

Step 5 :- $i = n \% 10$

Step 6 :- $sum = (sum * 10) + i$

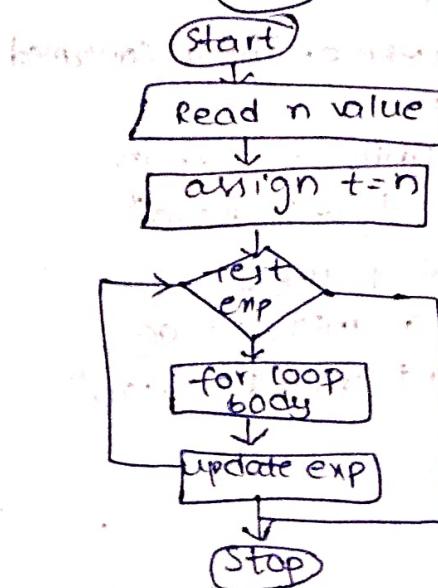
Step 7 :- $n = n / 10$

Step 8 :- If $t == sum$

("Given number is palindrome")

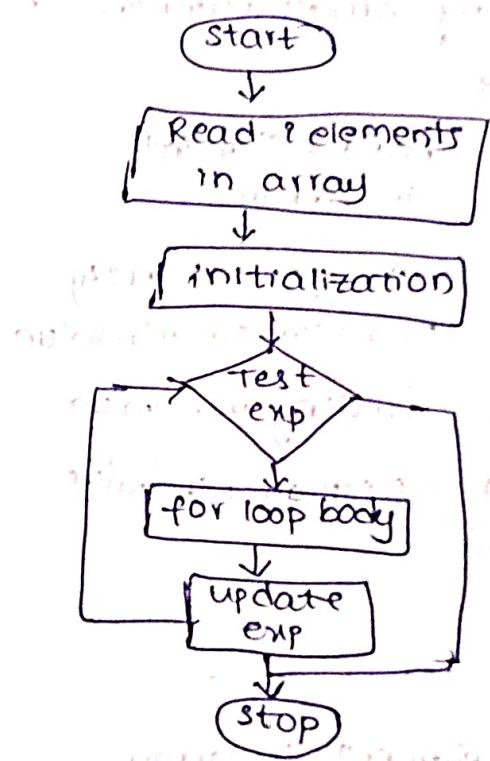
Step 9 :- else
display ("not a palindrome")

end



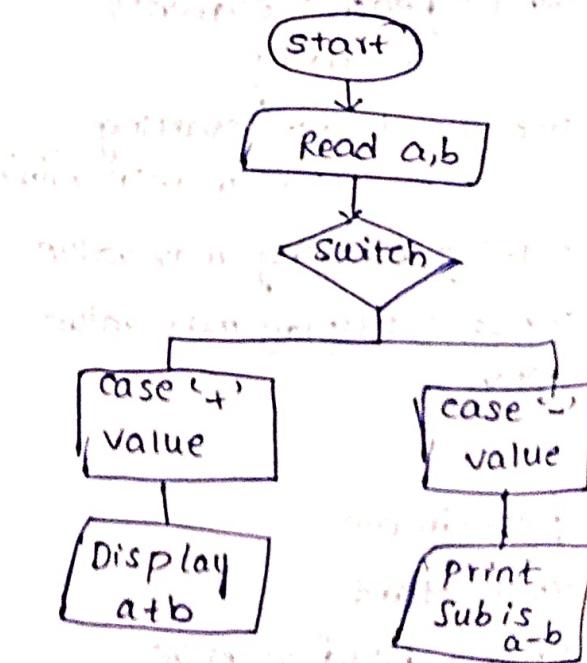
30) Reversing the array:-

- Start
- 1) Read i element in array
 - 2) Initialization
 - 3) Display array elements
 - 4) Stop



31) simulation calculator:-

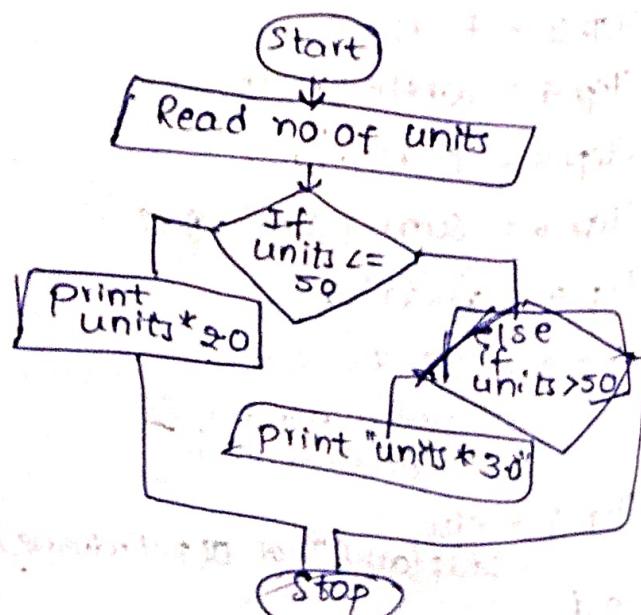
- Start
- 1) Read a,b
 - 2) choose any operator (+ -)
 - 3) If Given operator is '+', print addition of two numbers is $a+b$
If operator is '-'
Print "subtraction of two numbers is " $a-b$
 - 4) Stop



32) electricity bill:-

- Start
- 1) Number of units consumed
 - 2) If units ≤ 50 then
print "units * 2.0"
 - 3) else if units > 50 and units ≤ 100
print "units * 3.0 + 100"

end

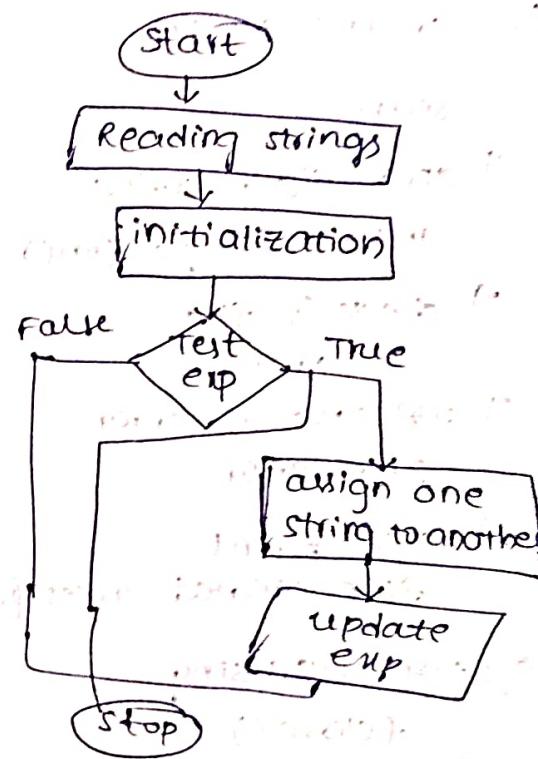


33) concatenation of strings

Start

- 1) string declaration
'Reading string'
- 2) Initialization
- 3) assign one string to another string
- 4) Display concatenated strings

stop

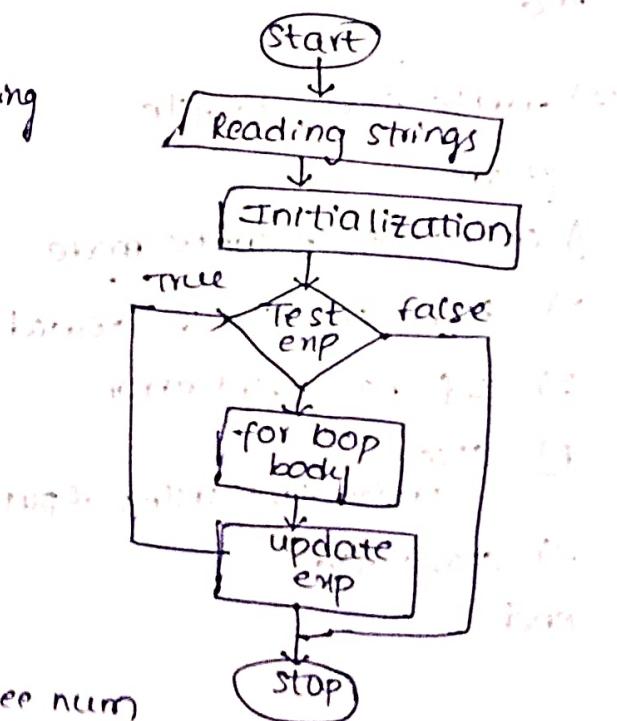


34) reverse of strings

start

- 1) string declaration and reading
- 2) Initialization
- 3) Reverse of string
- 4) Display Reverse string

end

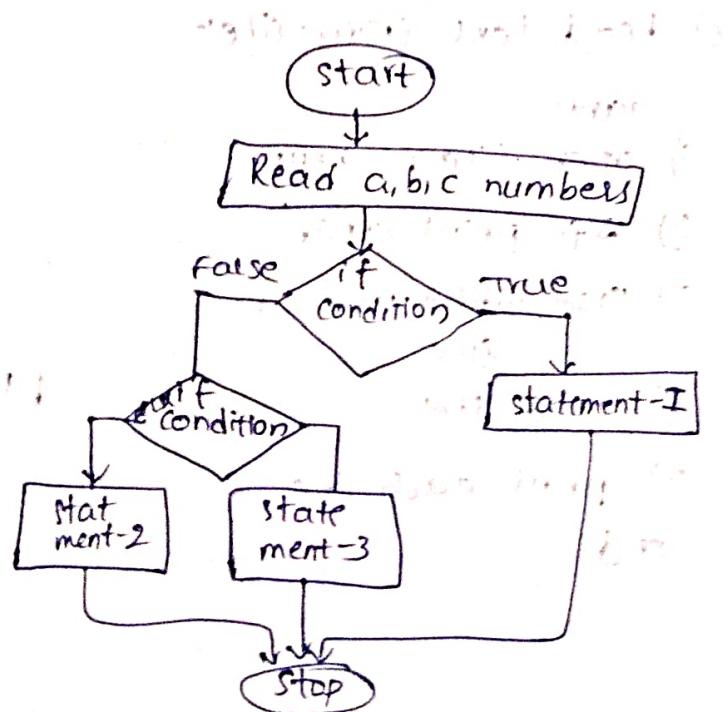


35) algorithm to read max of three num

start

- 1) Input a,b,c
- 2) read numbers a,b,c
- 3) checking max number
- 4) Display max number

stop



36) Create a file

Start

- 1) open file in write mode using fopen()
 - 2) check if file is NULL
 - 3) If case of error print error
 - 4) else print file created successfully
 - 5) else file using fclose()
- end

37) Write text to file

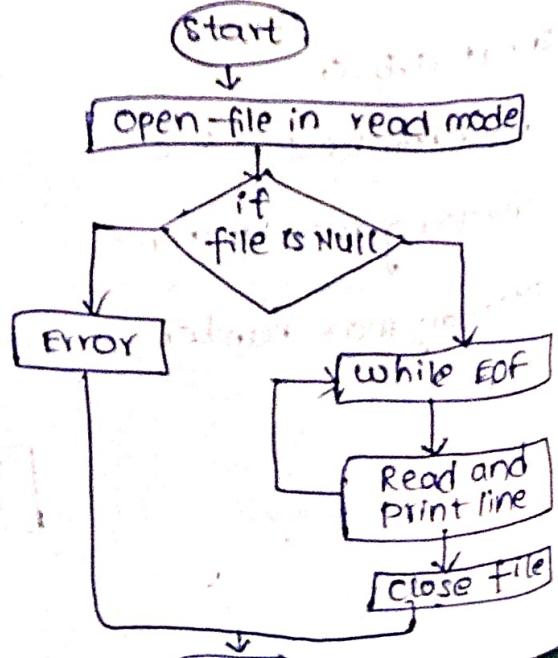
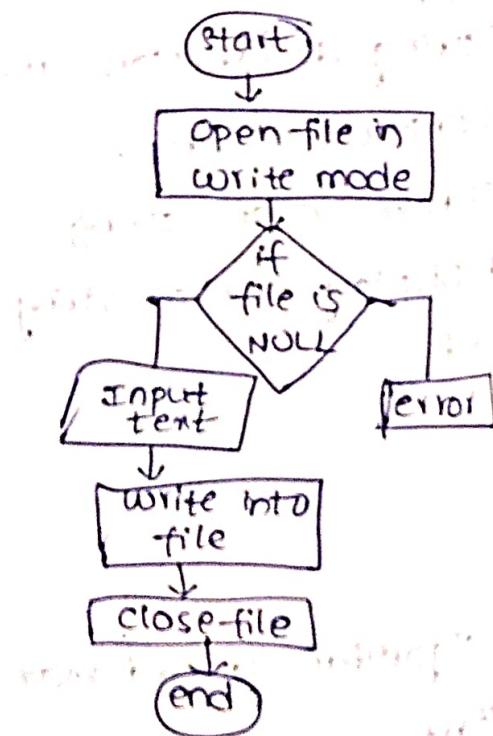
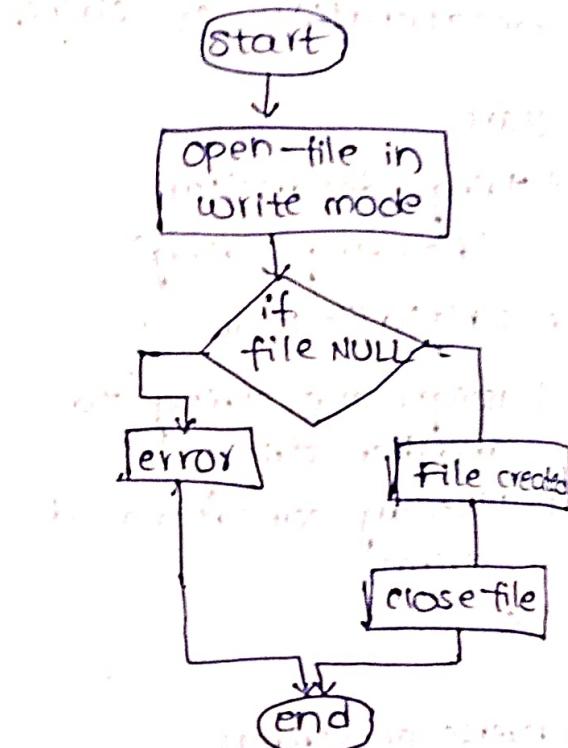
Start

- 1) open file in write mode
 - 2) check if file is created
 - 3) If not print error
 - 4) else write text using fputs()
 - 5) close file
- end

38) Read text from file

Start

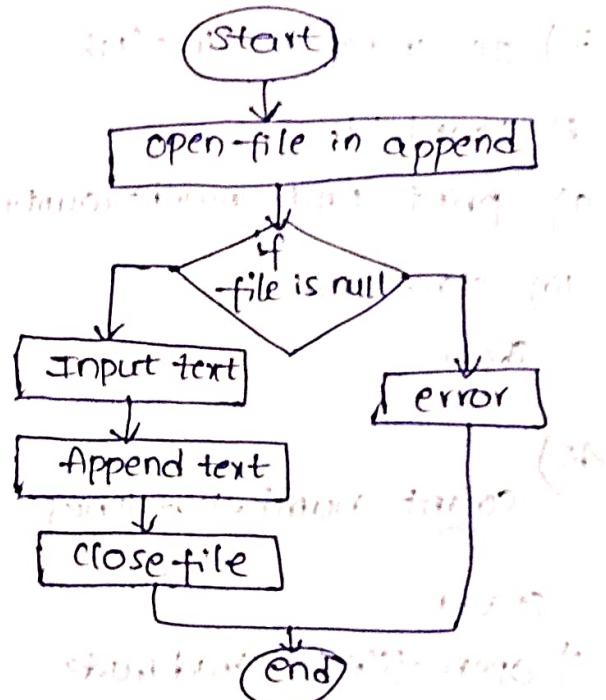
- 1) open file is null
 - 2) (If print error)
 - 3) else while end of file
 - 4) read line
 - 5) print each line
- end



39) Append text to a file

Start

- 1) open-file in append mode
 - 2) check if file is NULL
 - 3) error
 - 4) input from user
 - 5) write text to file-fputs()
 - 6) close file
- end

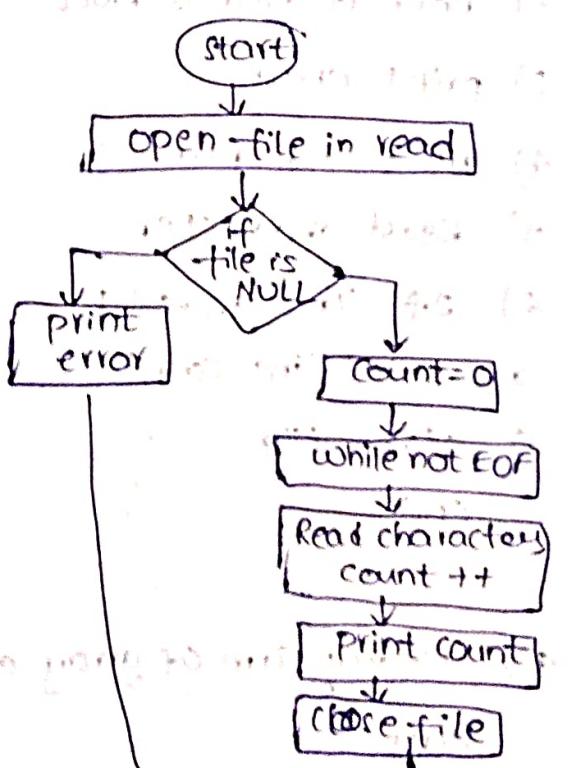


40) count number of characters in a file

start

- 1) open file in read mode
- 2) check if file is NULL
- 3) print error
- 4) Initialize, count=0
- 5) while not EOF
- 6) read character increases count
- 7) print count
- 8) close file

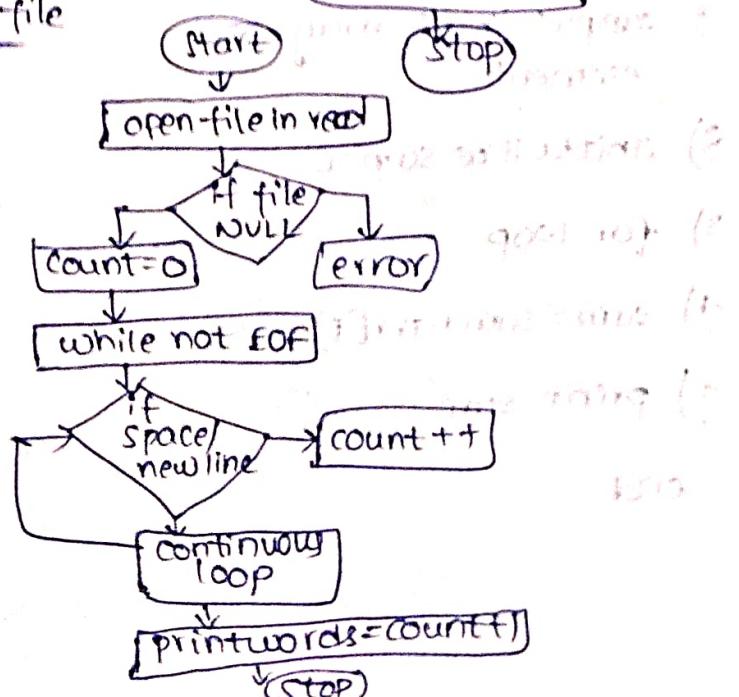
End



41) count no. of words in a file

start

- 1) open-file in read mode
- 2) check if file is NULL
- 3) print error
- 4) Initialize, count=0
- 5) while not EOF
- 6) read characters



7) If space/newline/tab

8) count++

9) print total word = count++

10) close file

stop

12)

count number of lines

start

1) open file in read mode

2) check if file is NULL

3) print error

4) while not EOF

5) Read character

6) If 'n' count++

7) print line count

8) close file

end

13) finding sum of array elements

start

1) input read array element

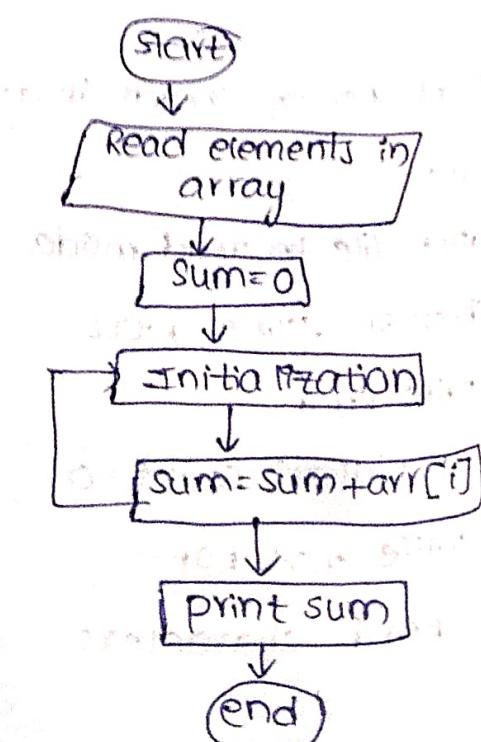
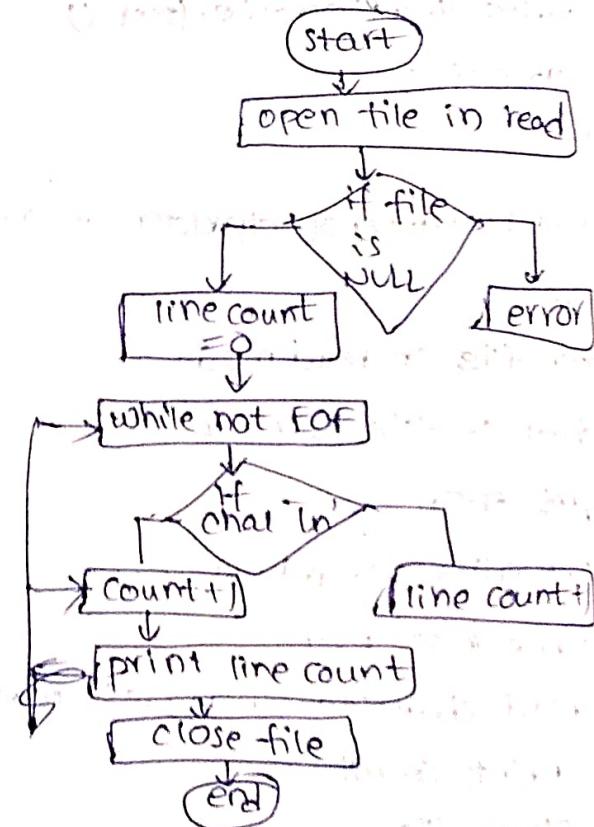
2) initialize sum=0

3) for loop

4) sum = sum + arr[i]

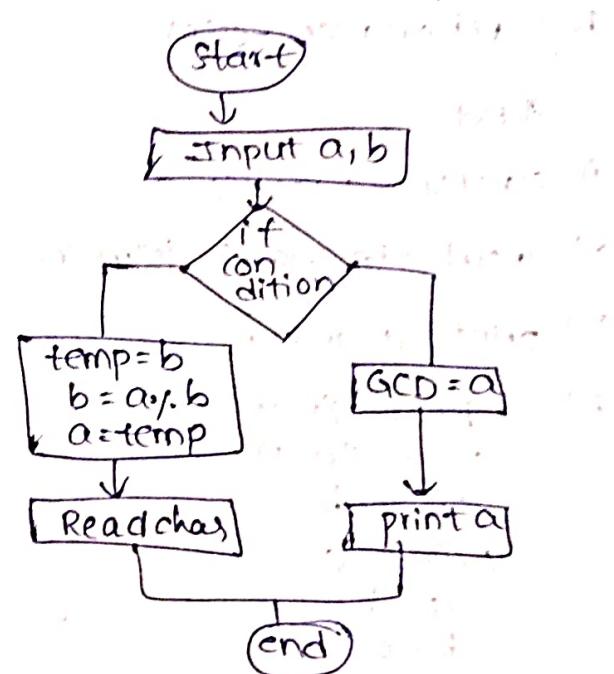
5) print sum

end



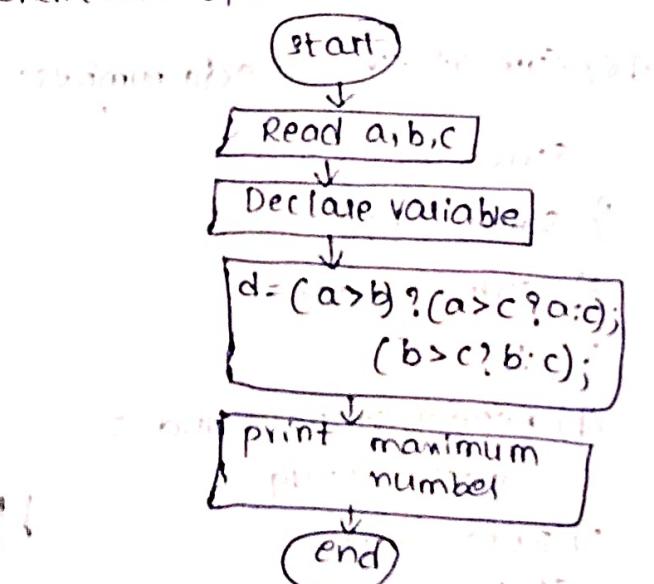
11) GCD of two numbers :-

- 1) start
- 2) input a and b
- 3) while $b \neq 0$
- 4) temp = b
- 5) $b = a \% b$
- 6) $a = \text{temp}$
- 7) GCD = a
- 8) print GCD
- end



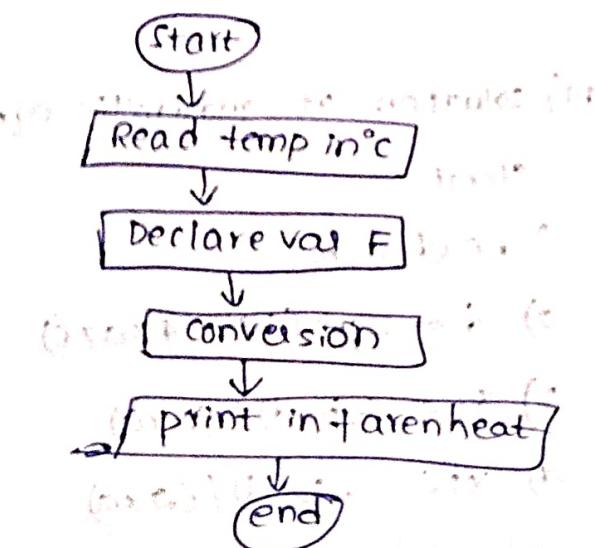
15) sum of 3 numbers using conditional operators

- Start
- 1) Read a,b,c
 - 2) Declare variable
 - 3) condition check
 - 4) print "maximum number"
 - end



16) conversion of "c" to fahrenheat

- Start
- 1) Read "temp" in °c
 - 2) Declare variable F
 - 3) conversion
 - 4) print in fahrenheat
 - end

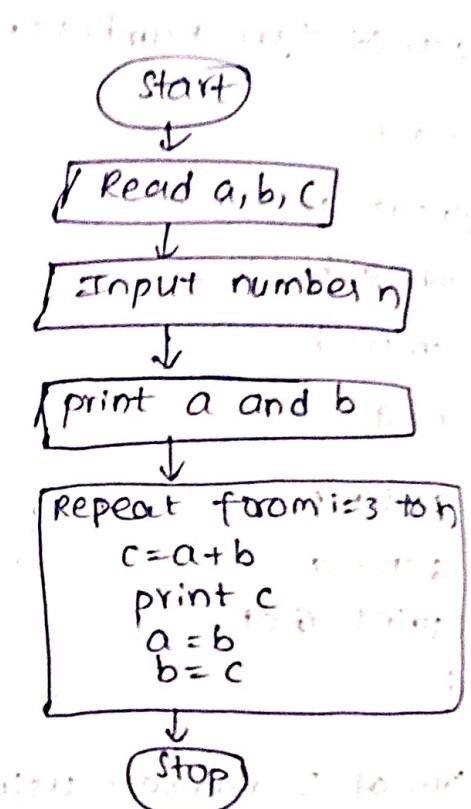


47) Fibonacci series

Start

- 1) Initialize a, b, c
- 2) Input the no. of term n
- 3) print a and b
- 4) repeat from $i=3$ to n
 $c = a+b$
 print c
 $a = b$
 $b = c$

STOP

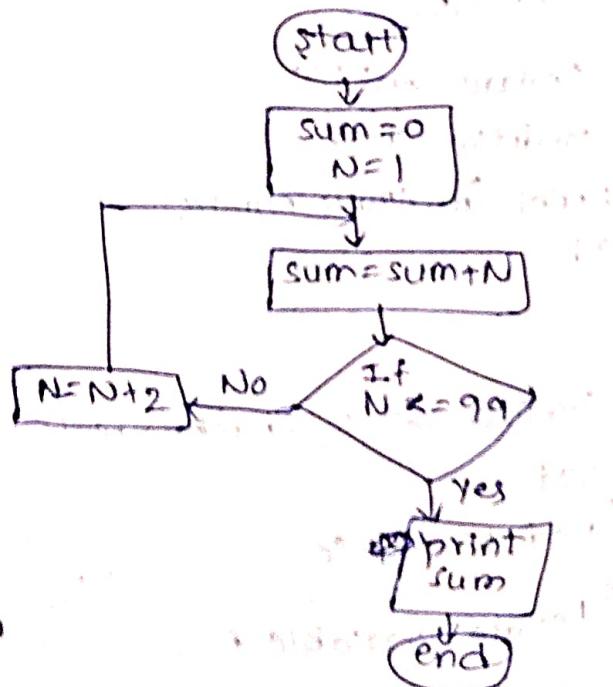


48) Sum of first 50 odd numbers

Start

- 1) $sum=0, n=1$
- 2) $sum=sum+n$
- 3) $n=n+2$
- 4) Repeat steps 1 and 5 until $n \leq 99$
- 5) print sum

stop

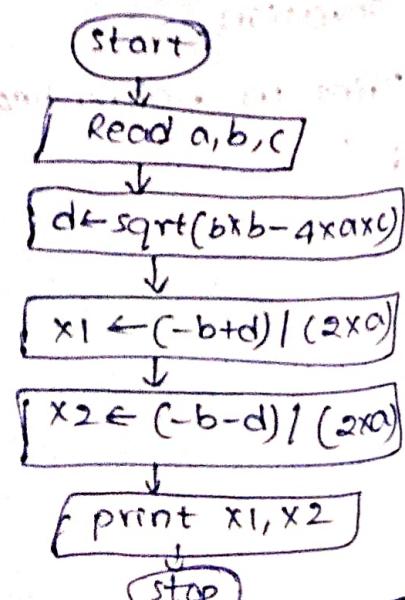


49) solution of quadratic eqn

Start

- 1) Read $[a, b, c]$
- 2) $d \leftarrow \sqrt{b \times b - 4 \times a \times c}$
- 3) $x_1 \leftarrow (-b + d) / (2 \times a)$
- 4) $x_2 \leftarrow (-b - d) / (2 \times a)$
- 5) print x_1, x_2

stop



50) Volume of a ~~cube~~ circle

start

1) Read r

2) $VOL = VOL = (4/3) * pi * r^2 * r$

3) print VOL

stop

