|| Chintamani ||

DAY 2

* Programming Fundamentals.

Thought Process to solve a Problem:-

i) Understand the Problem.
ii) What input values will be given.
iii) Approach to solve problem.

Algorithm:- Steps to solve problem.
This is an step by step procedure to solve a particular task.

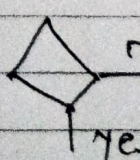
Compiler:- It's convert high level language to machine Understanding language.

Flowchart:- It's an graphical representation of an Algorithm.

Components of Flowchart

(Start/End) - Terminator (It's indicate starting & ending state)

I/P & O/P - Input/Output (It takes either input or to give o/p on screen)



- Decision Making Block (Based on condn we check the truth or False)

I=I+1 - Process Block (These is used For Calculation part)

↓↑ :- Arrows (It's gives an Flow of Algo)

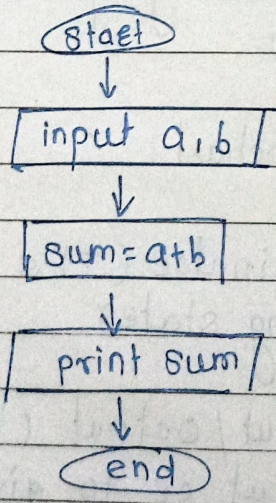
Ⓐ :- Connector (This is used for Function)

* PseudoCode :- (Nakli code)
It's an generic way of representing algorithum in textual form.

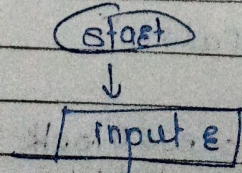
Ex :- Adding an 2 Numbers

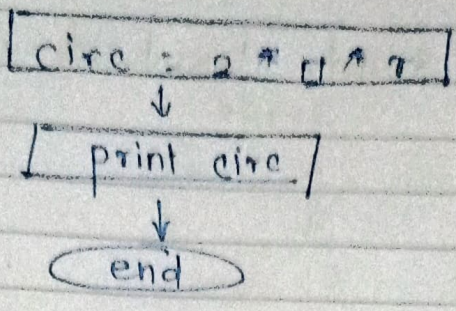
```
Read a, b
add = a+b;
Print add
```

1) Add 2 numbers by taking input

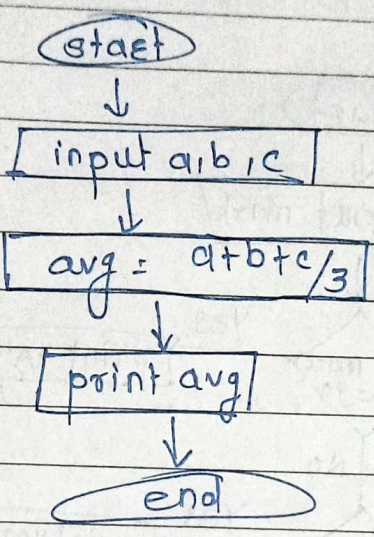


2) Find circumference of circle.

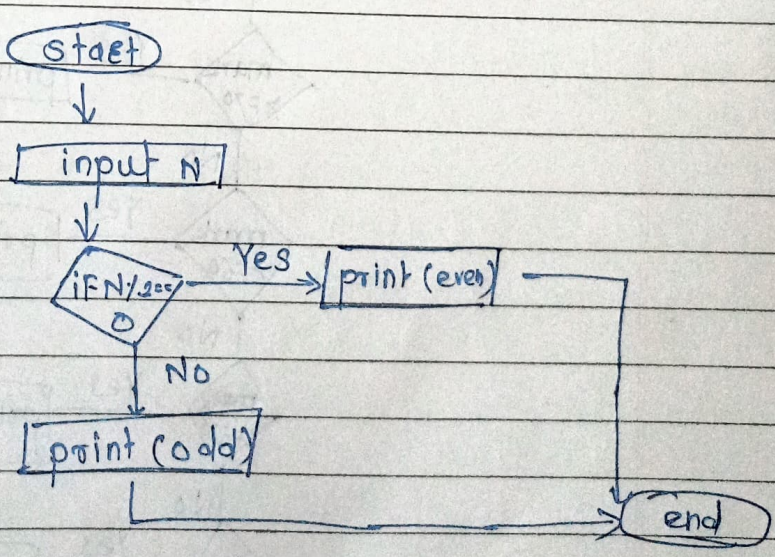




3) Avereage of 3 Numbeers.



4) check Numbee is ODD oe even

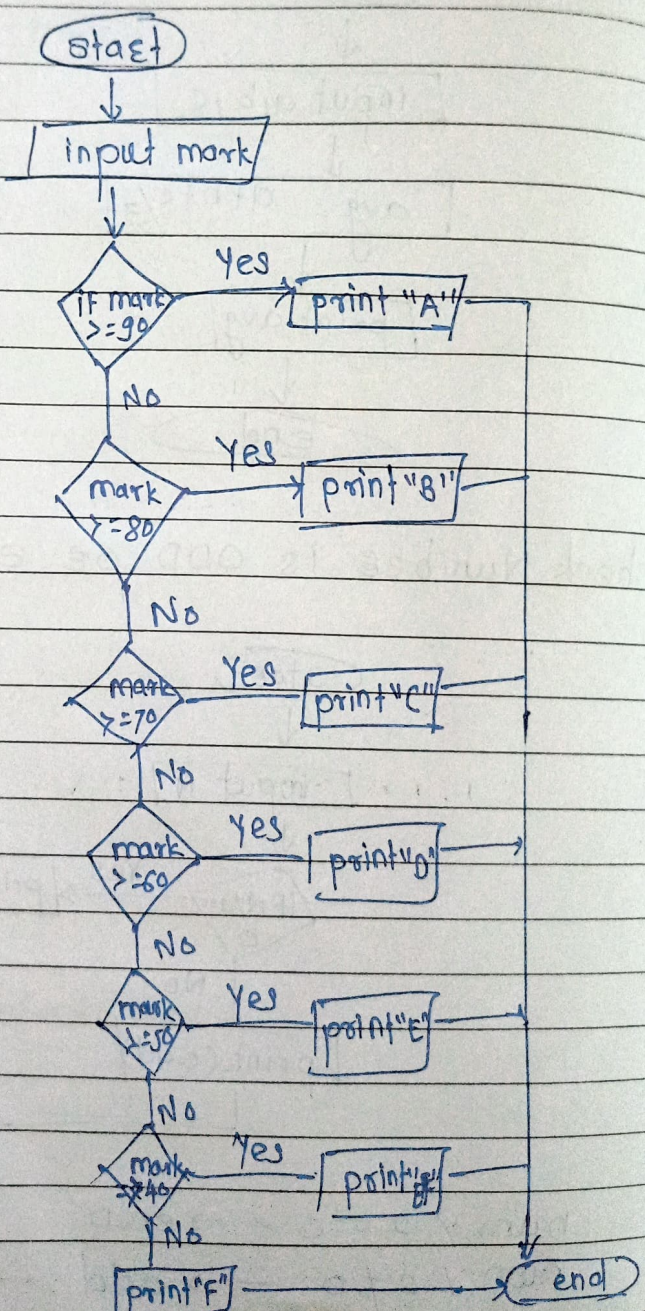


num %. 2 == 0 ⟶ even

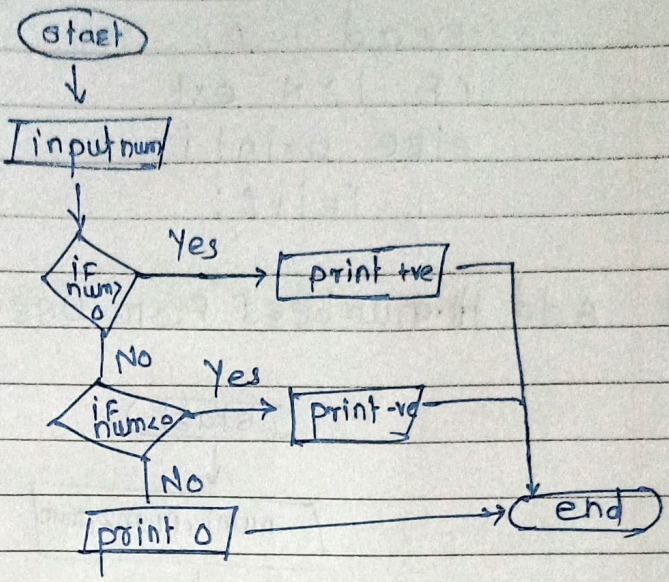
num %. 2 ≠ 0 ⟶ odd — num%.2 == 1.

5) Students Grade Flowchart

Marks	Grade
>= 90	A
>= 80	B
>= 70	C
>= 60	D
>= 50	E
< 40	F



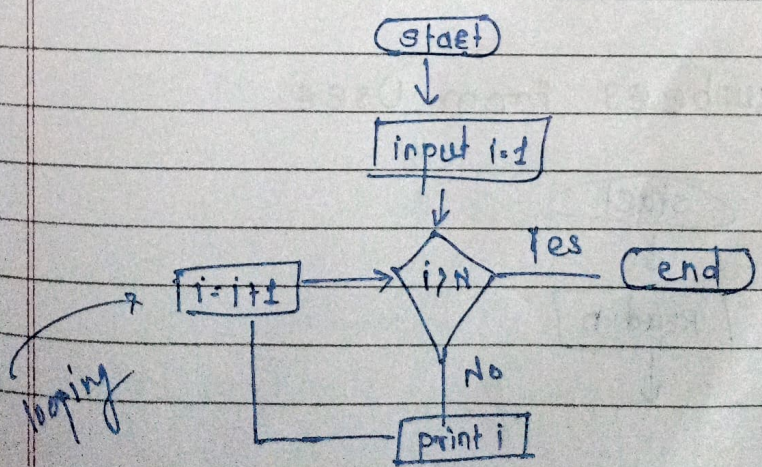
6) Check number is +ve, -ve, 0.



Pseudo code:

```
Read num
IF num>0 then
        print "positive"
else if num<0 then
        print "Negative No"
else
        print "0"
```

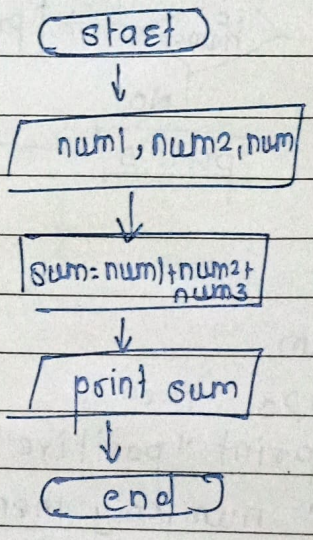
7) Point Counting from 1 to N.



Pseudo Code:

```
Read i=1;
if i>N ext
else print i;
     i=i+1;
```

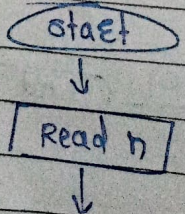
8) Add three numbers From User.

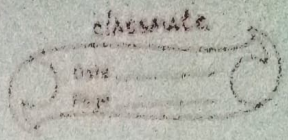


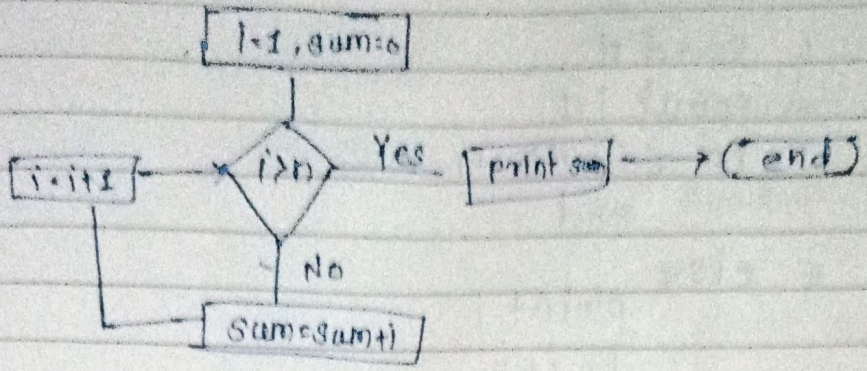
Pseudo Code:

```
Read num1, num2, num3
sum = num1 + num2 + num3
print sum.
```

9) Add n numbers From User.



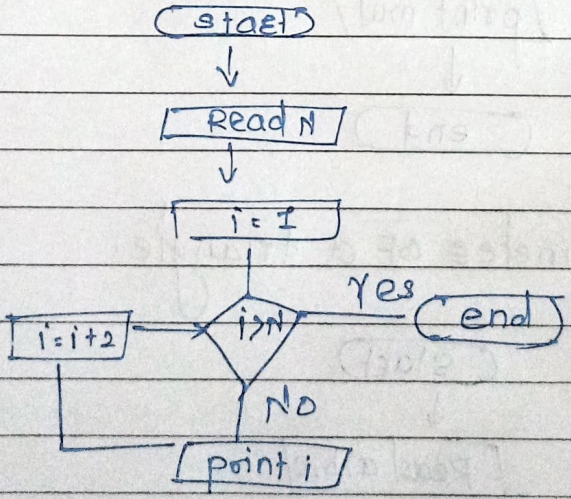




Pseudo Code :-

```
Read n
input i=1, sum=0;
if (i>n) then
        print sum
else then
        sum=sum+i;
        i=i+1;
```

Printing 1 to N but only odd numbers.

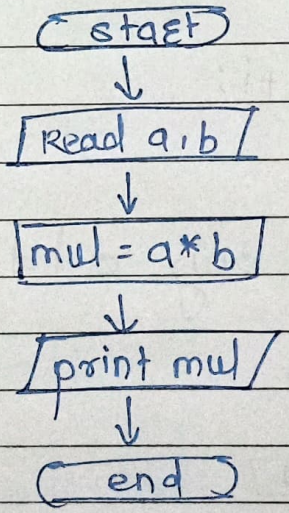


Pseudo Code :-

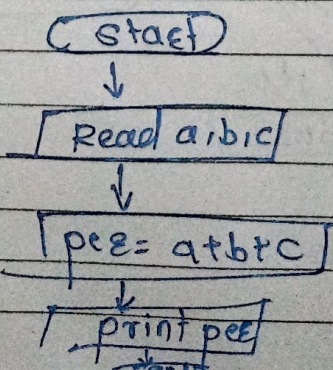
1. Read N
2. input i=1
3. if (i>N) then
   end
4. else
   print i
   i = i+2
   go to step 3.

* Homework Examples :-

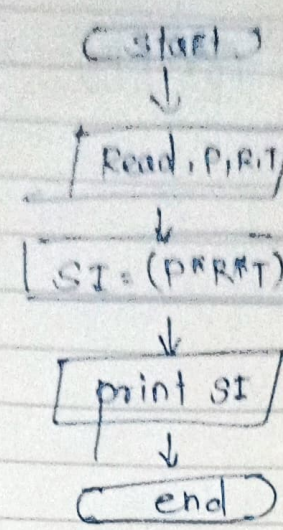
1) Multiply 2 no by taking input



2) Find peeimetee of a triangle.



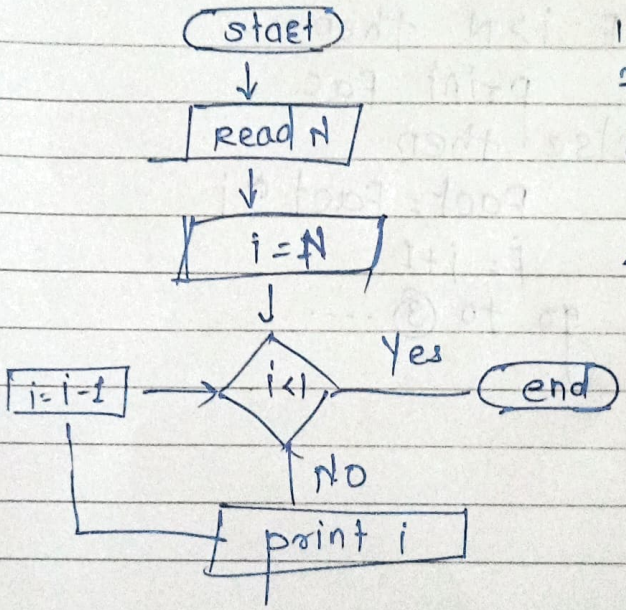
3) Find Simplest Interest



Pseudo

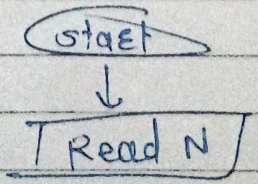
```
Read P, R, T
SI = (P*R*T)/100
print SI
```

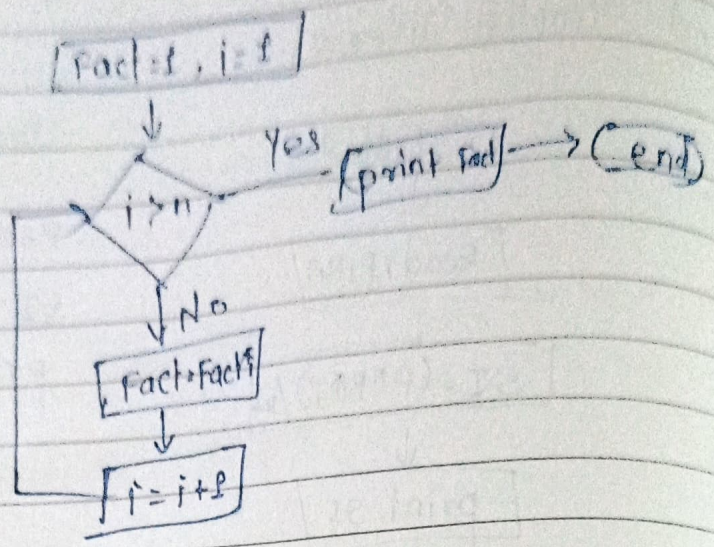
4) Print counting from N to 1.



1. Read n
2. i = n
3. if i < 1 then exit
4. else print i
   i = i - 1;

5) Find Factorial of a number





Pseudo:

1. Read N
2. input i=1 Fact=1
3. IF i>N then
   print fac
4. else then
   Fact = Fact * i
   i = i+1
   go to (3) ....