

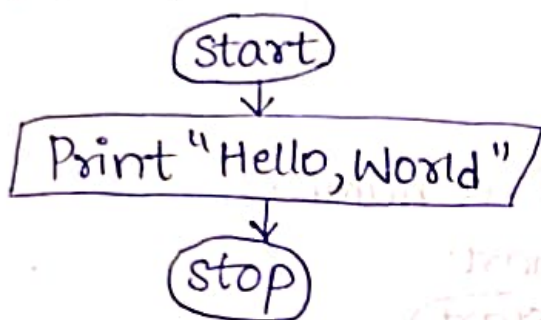
# C Programs

1) Print "Hello, World".

Algorithm:

- i) start
- ii) print "Hello, World"
- iii) stop

Flowchart:

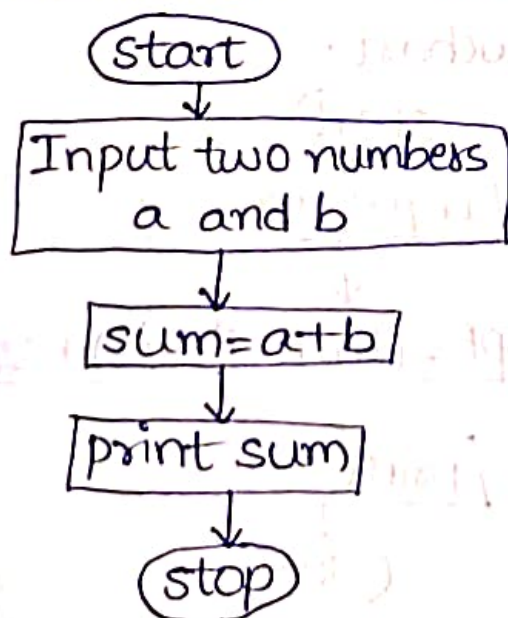


2) Add two numbers.

Algorithm:

- i) start
- ii) Input two numbers a and b
- iii)  $sum = a + b$
- iv) print sum
- v) stop

Flowchart:

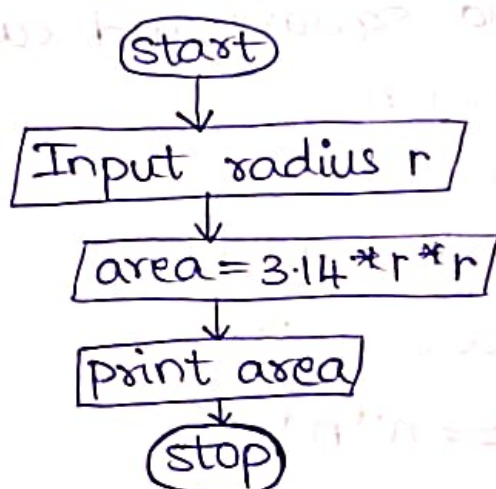


3) Find area of circle.

Algorithm:

- i) start
- ii) Input radius r
- iii)  $area = 3.14 * r * r$
- iv) print area
- v) stop

Flowchart:

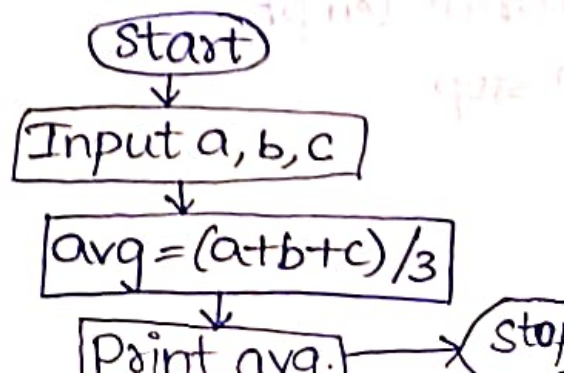


4) Find average of three numbers

Algorithm:

- i) start
- ii) Input a, b, c
- iii)  $avg = (a + b + c) / 3$
- iv) print avg.
- v) stop

Flowchart:



36) Reverse a string

Algorithm:

- 1) start
- 2) input string s
- 3) rev = ""
- 4) for i from length(s) - 1 down to 0 do rev = rev + s[i]
- 5) print rev
- 6) stop

37) Check palindrome string

Algorithm:

- 1) start
- 2) input s
- 3) if s == reverse(s) then  
print "Palindrome" else  
print "Not Palindrome"
- 4) stop

38) Count words in a sentence

Algorithm:

- 1) start
- 2) input string
- 3) count = 1 (if string not empty)
- 4) for each character if it is  
space then count = count + 1
- 5) print count
- 6) stop

32) calculate simple interest.

Algorithm:

- 1) start
- 2) input P, R, T
- 3)  $SI = (P * R * T) / 100$
- 4) print SI
- 5) stop

33) Find compound interest.

Algorithm:

- 1) start
- 2) input P, R, T
- 3)  $CI = P * ((1 + R/100)^T) - P$
- 4) print CI
- 5) stop

34) Find ASCII value of a character

Algorithm:

- 1) start
- 2) input ch
- 3) print `int(ch)` (ASCII value)
- 4) stop

35) Count number of vowels in a string

Algorithm:

- 1) start
- 2) input string
- 3) count = 0
- 4) for each character in string  
if character in [a, e, i, o, u, A, E, I, O, U]  
then count = count + 1; print count
- 5) stop



29) Sum of even numbers upto N

Algorithm:

1) start

2) input n

3) sum = 0

4) for i = 2 to n step 2

do sum = sum + i

5) print sum

6) stop

30) Print factors of a number

Algorithm:

1) start

2) input n

3) for i = 1 to n do if  $n \% i == 0$

then print i

4) stop

31) Find strong number

Algorithm:

1) start

2) input n

3) temp = n; sum = 0

4) while temp > 0 do rem = temp % 10;

sum = sum + factorial(rem); temp = temp / 10

5) if sum == n then print "strong number"

else print "not a strong number"

6) stop

26) Find largest among three numbers.

Algorithm:

- 1) start
- 2) input a, b, c
- 3) largest = a
- 4) if  $b > \text{largest}$  then largest = b
- 5) if  $c > \text{largest}$  then largest = c
- 6) print largest
- 7) stop

27) Check vowel or consonant

Algorithm:

- 1) start
- 2) input ch
- 3) if ch in [a, e, i, o, u, A, E, I, O, U]  
then print "vowel" else print  
"consonant"
- 4) stop

28) Check alphabet, digit or special character.

Algorithm:

- 1) start
- 2) input ch
- 3) if  $'A' \leq \text{ch} \leq 'Z'$  or  $'a' \leq \text{ch} \leq 'z'$   
then print "alphabet"
- 4) else if  $'0' \leq \text{ch} \leq '9'$  then  
print "digit"
- 5) else print "special character"
- 6) stop

23) Find power of a number.

Algorithm:

1) start

2) input base, exp

3) pow = 1

4) For  $i = 1$  to exp do pow = pow \* base

5) print pow

6) stop

24) Check prime number.

Algorithm:

1) start

2) input n

3) flag = 0

4) For  $i = 2$  to  $n/2$  do if  $n \% i == 0$   
then flag = 1

5) if flag == 0 then print "prime"

else print "not prime"

6) stop

25) print all primes between two numbers.

Algorithm:

1) start

2) input low, high

3) For  $i = \text{low}$  to high do check if  
 $i$  is prime, if prime print  $i$

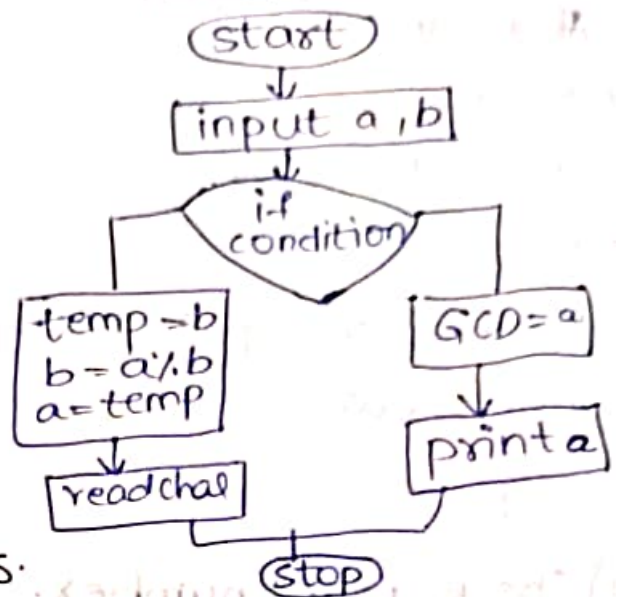
4) stop

20) Find GCD of two numbers.

Algorithm:

- 1) start
- 2) input  $a, b$
- 3) while  $b \neq 0$  do  $\text{temp} = b$ ;  
 $b = a \% b$ ;  $a = \text{temp}$
- 4) print  $a$  (GCD)
- 5) stop

Flowchart:



21) Print LCM of two numbers.

Algorithm:

- 1) start
- 2) input  $a, b$
- 3) compute gcd by using Euclid's algorithm
- 4)  $\text{lcm} = (a * b) / \text{gcd}$
- 5) print lcm
- 6) stop

22) Count digits of a number.

Algorithm:

- 1) start
- 2) input  $n$
- 3)  $\text{count} = 0$
- 4) while  $n > 0$  do  $\text{count} = \text{count} + 1$ ;  
 $n = n / 10$
- 5) print count
- 6) stop



17) Find sum of digits.

Algorithm:

- 1) start
- 2) input  $n$
- 3)  $sum = 0$
- 4) while  $n > 0$  do  $sum = sum + (n \% 10)$ ;  
 $n = n / 10$

5) print  $sum$

6) stop

18) Check Armstrong number

Algorithm:

- 1) start
- 2) input  $n$
- 3)  $temp = n$ ;  $sum = 0$
- 4) while  $temp > 0$  do  $rem = temp \% 10$ ;  
 $sum = sum + rem^3$ ;  $temp = temp / 10$
- 5) if  $sum == n$  then print "Armstrong"  
else print "not armstrong"
- 6) stop

19) Print Fibonacci series

Algorithm:

- 1) start
- 2) input  $n$
- 3)  $a = 0$ ;  $b = 1$   
print  $a, b$
- 5) For  $i = 3$  to  $n$  do  $next = a + b$ ;  
print  $next$ ;  $a = b$ ;  $b = next$ ;
- 6) stop

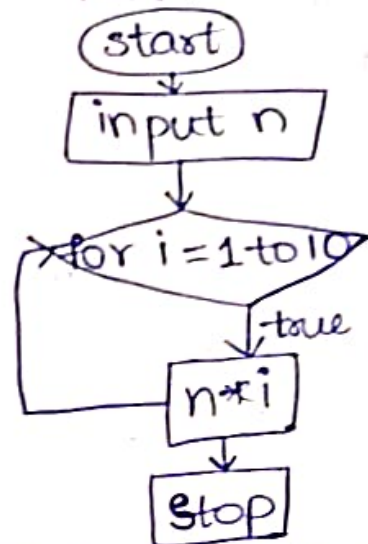


14) Generate multiplication table.

Algorithm:

- 1) start
- 2) input  $n$
- 3) For  $i=1$  to 10 do  
    print  $n \times i$
- 4) stop

Flowchart:

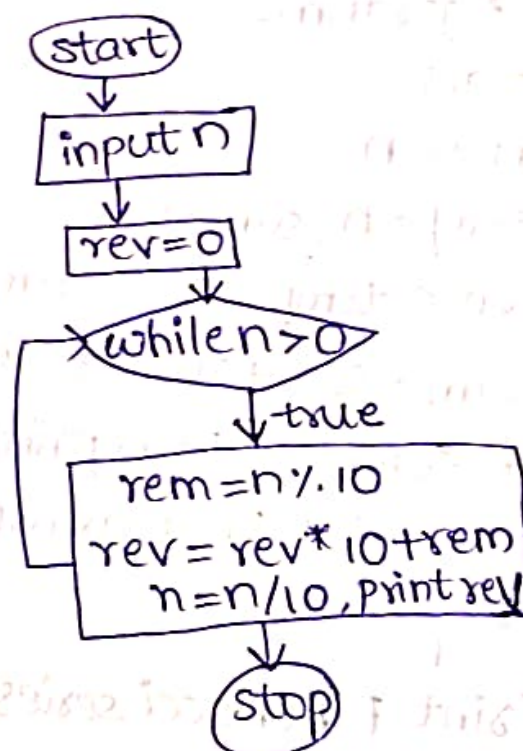


15) Reverse a number

Algorithm:

- 1) start
- 2) input  $n$
- 3)  $rev=0$
- 4) while  $n > 0$  do  
     $rem = n \% 10$ ;  
     $rev = rev * 10 + rem$ ;  $n = n / 10$
- 6) print  $rev$
- 7) stop

Flowchart:

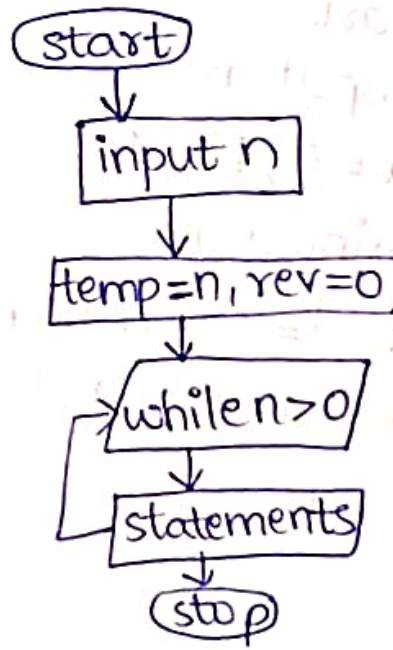


16) Check palindrome number.

Algorithm:

- 1) start
- 2) input  $n$
- 3)  $temp = n$ ;  $rev = 0$
- 4) while  $n > 0$  do  $rev = rev * 10 + (n \% 10)$ ;  
     $n = n / 10$
- 5) if  $rev == temp$  then print "palindrome"  
    else print "not palindrome"
- 6) stop

Flowchart:

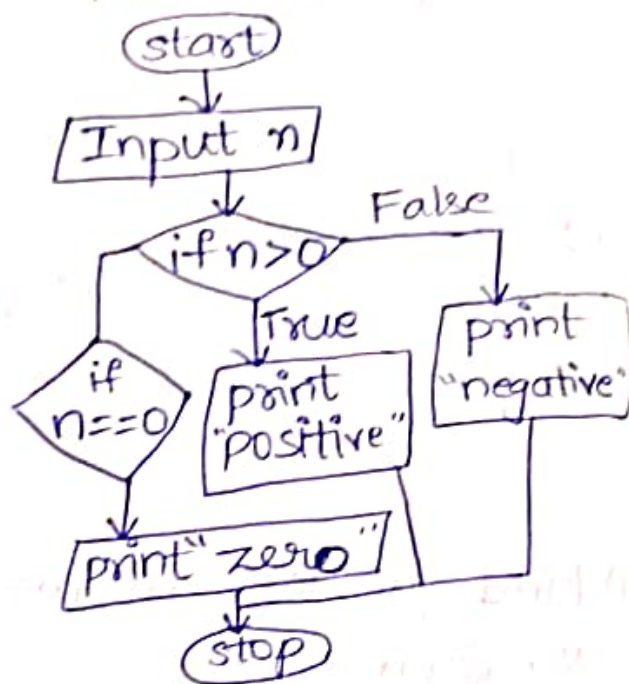


11) Check positive or negative.

Algorithm:

- 1) start
- 2) input  $n$
- 3) if  $n > 0$  then print "positive"
- 4) else if  $n == 0$  then print "zero"
- 5) else print "negative"
- 6) stop

Flowchart:

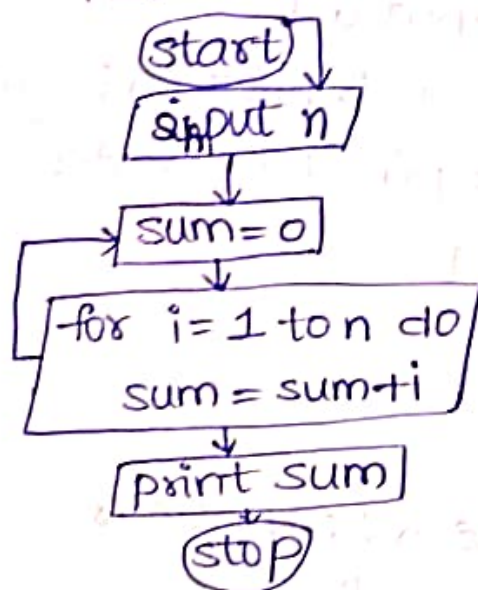


12) Find sum of first  $N$  natural numbers.

Algorithm:

- 1) start
- 2) input  $n$
- 3)  $sum = 0$
- 4) For  $i = 1$  to  $n$  do  
     $sum = sum + i$
- 5) print  $sum$
- 6) stop

Flowchart:

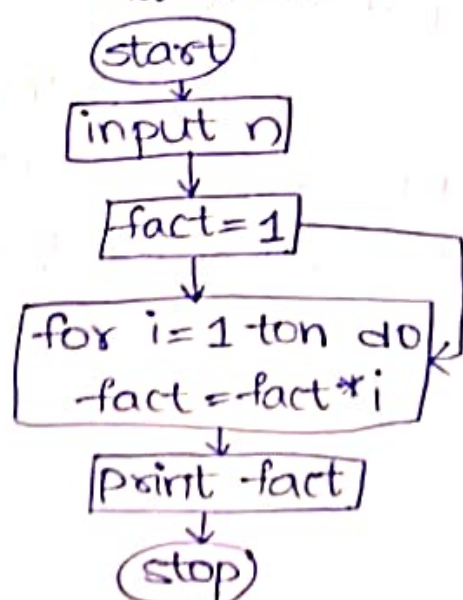


13) Find factorial of a number.

Algorithm:

- 1) start
- 2) input  $n$
- 3)  $fact = 1$
- 4) For  $i = 1$  to  $n$  do  
     $fact = fact * i$
- 5) print  $fact$
- 6) stop

Flowchart:

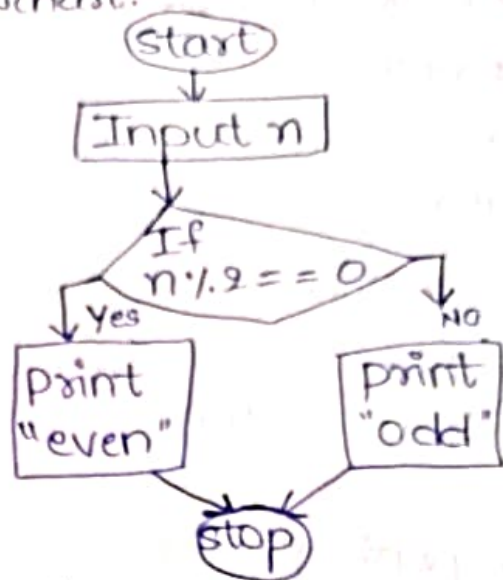


8) Check odd or even.

Algorithm:

- 1) start
- 2) Input  $n$
- 3) If  $n \% 2 == 0$  then print "even" else print "odd"
- 4) stop

Flowchart:

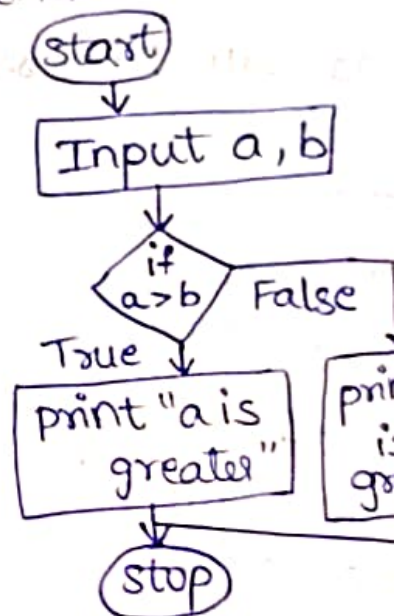


9) Find greatest of two numbers.

Algorithm:

- 1) start
- 2) Input  $a, b$
- 3) If  $a > b$  print "a is greater" else print "b is greater"
- 4) stop

Flowchart:

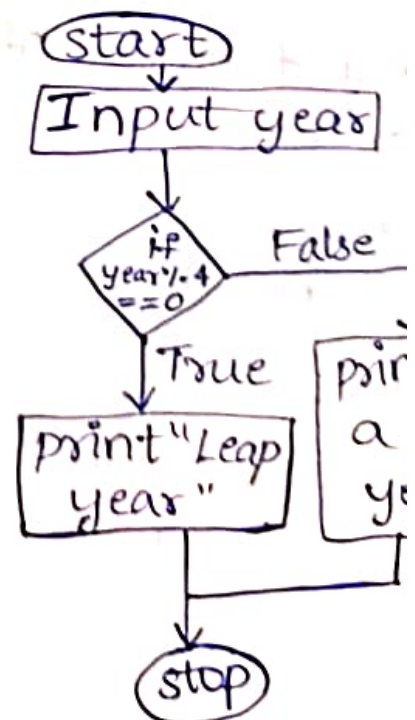


10) Check Leap year

Algorithm:

- 1) start
- 2) Input year
- 3) If  $\text{year} \% 4 == 0$  then print "Leap year" else print "Not a leap year"
- 4) stop

Flowchart:



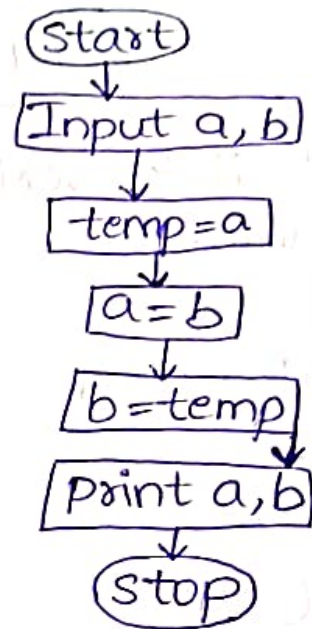


5) Swap two numbers.

Algorithm:

Flowchart:

- 1) Start
- 2) Input a, b
- 3) temp = a
- 4) a = b
- 5) b = temp
- 6) print a, b
- 7) stop

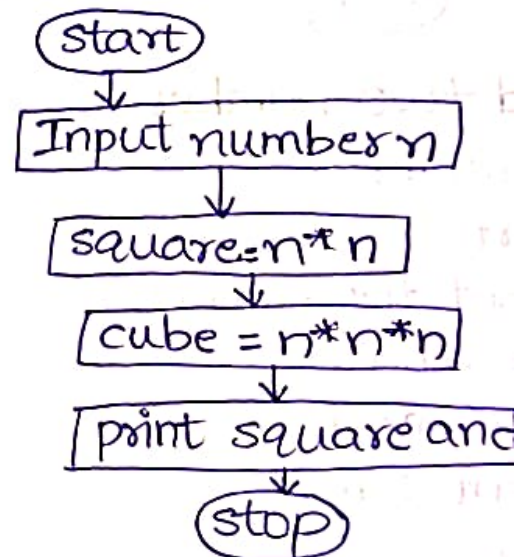


6) Find square and cube of a number.

Algorithm:

Flowchart:

- 1) start
- 2) Input number n
- 3) square =  $n * n$
- 4) cube =  $n * n * n$
- 5) print square & cube
- 6) stop



7) Convert celsius to Fahrenheit.

Algorithm:

Flowchart:

- 1) start
- 2) input temp C
- 3)  $\text{tempF} = (\text{tempC} * 9/5) + 32$
- 4) print tempF
- 5) stop

