Assignment 1

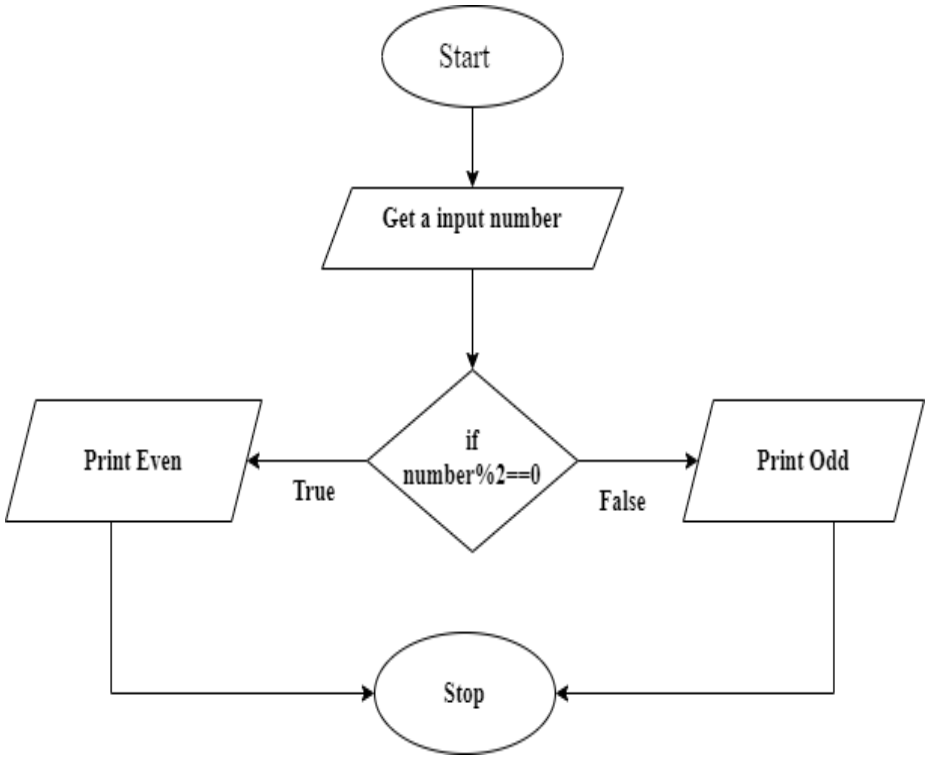
Check no is even or odd.

Ans:-

Algorithm-

1) Start
2) Get a input number
3) Check whether it is odd or even using num%2==0
4) If true, print even number. Else, print odd number
5) Stop

Flowchart:-

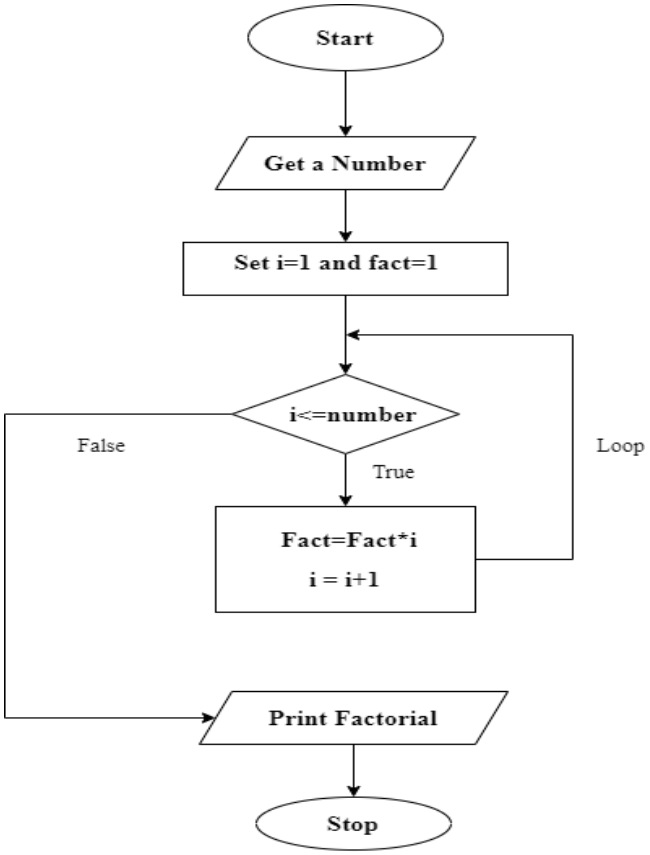


Factorial of given number.

Ans- **Algorithm**:-

1) Start
2) Declare variable num, fact=1, i=1
3) Get a input number
4) Repeat until i<=num
   Fact=fact*i
   i++
5) Print factorial
6) Stop

Flowchart:-

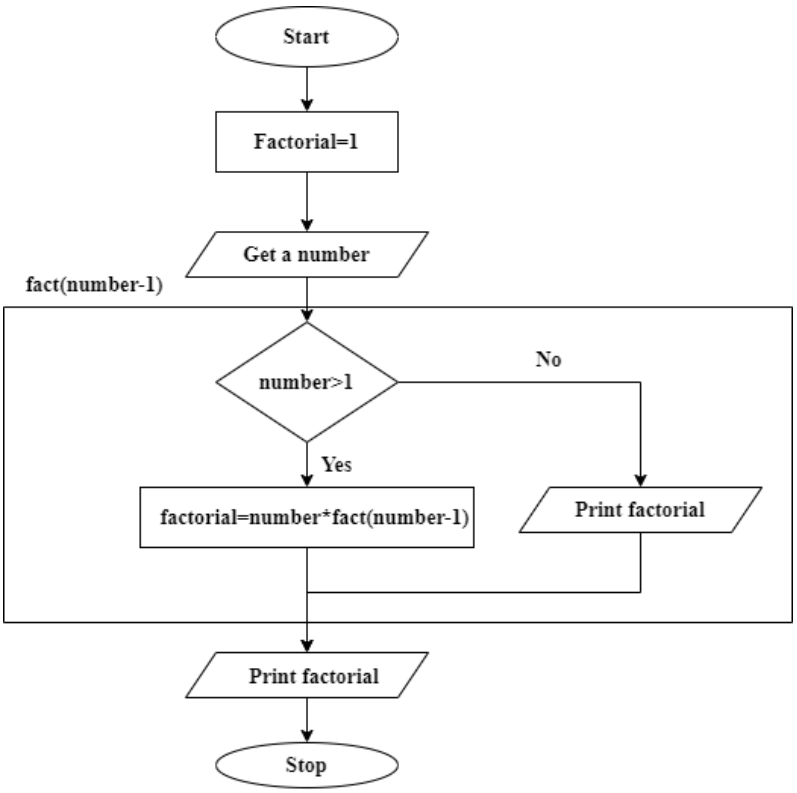


Factorial using recursion

Ans: **Algorithm-**

1) Start
2) Declare varible fact=1
3) Get a number from user
4) Call method facto(number) recursively until value of number>1
5) Print factorial
6) Stop

Flowchart:

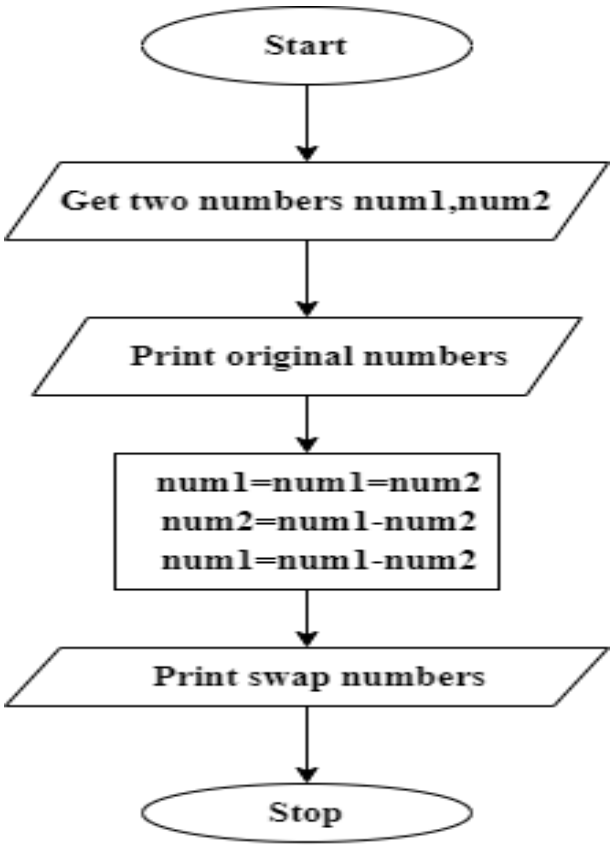


Swap two numbers without using third variable.

Ans: **Algorithm**:-

1) Start
2) Get two numbers num1,num2
3) Print unswap numbers
   Num1=num1+num2
   Num2=num1-num2
   Num1=num1-num2
4) Print swap numbers
5) Stop

Flowchart:-

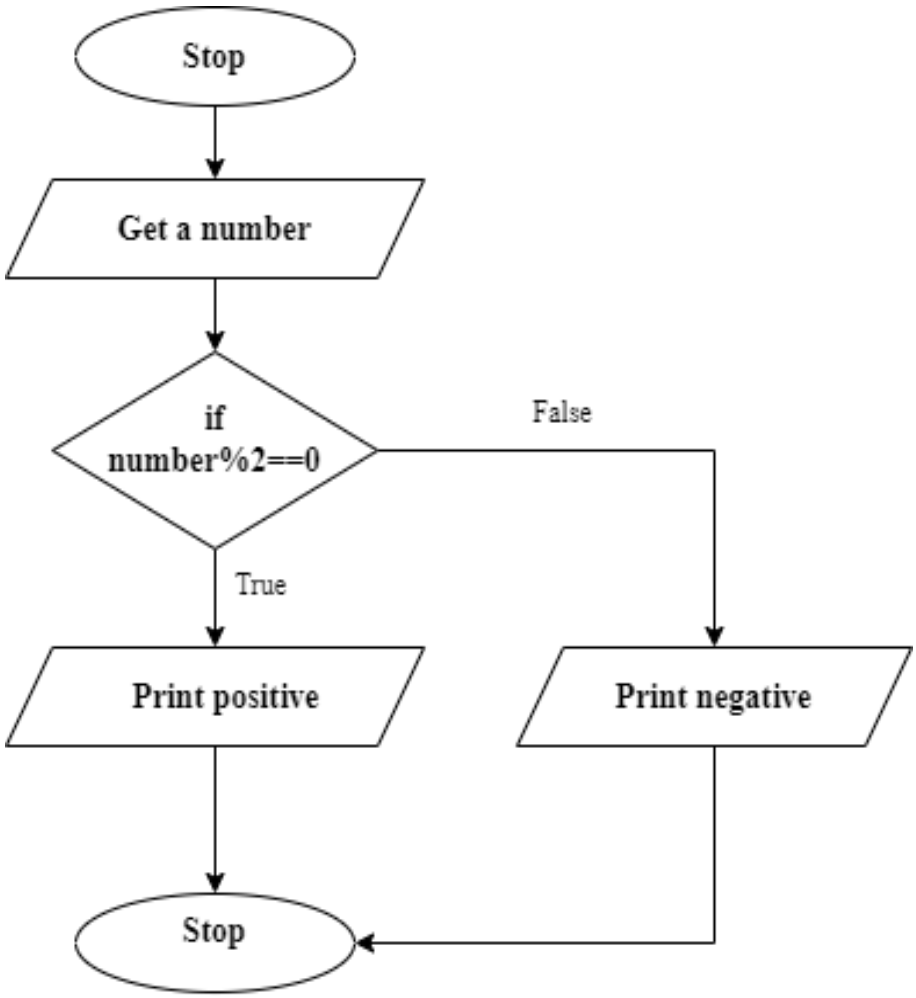


Check given numbers whether it is positive or negative

Ans: **Algorithm**:

1) Stop
2) Get a number
3) Check number%2==0
   If true, print positive
   Else print negative
4) Stop

Flowchart:

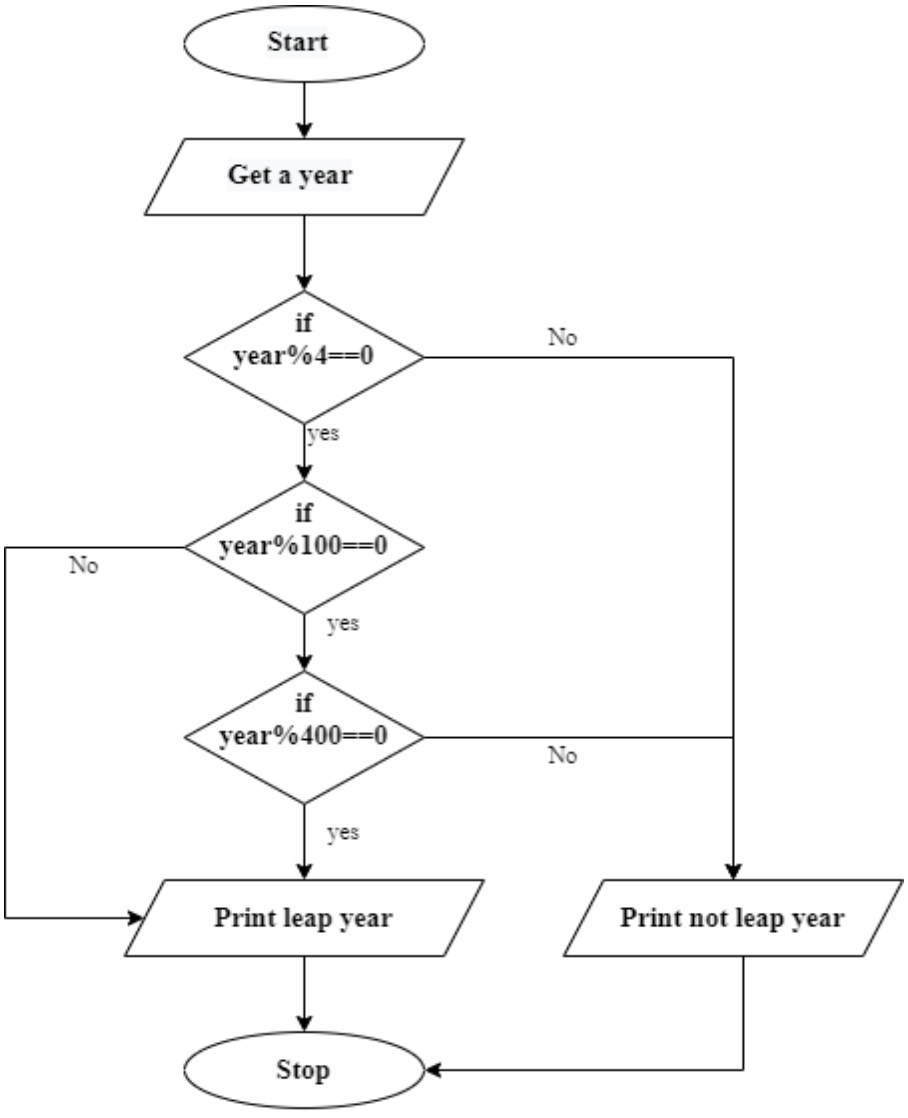


Leap year

Ans: **Algorithm**:-

1. Start
2. Get a input year
3. Check year divible by 4, if true go to step 4. else Go to step 7
4. Check year divisible by 100, if true go to step 5, else go to step 6
5. Check year divisible by 400, if true go to step 6, else go to step 7
6. Print leap year
7. Print not leap year
8. Stop

Flowchart:

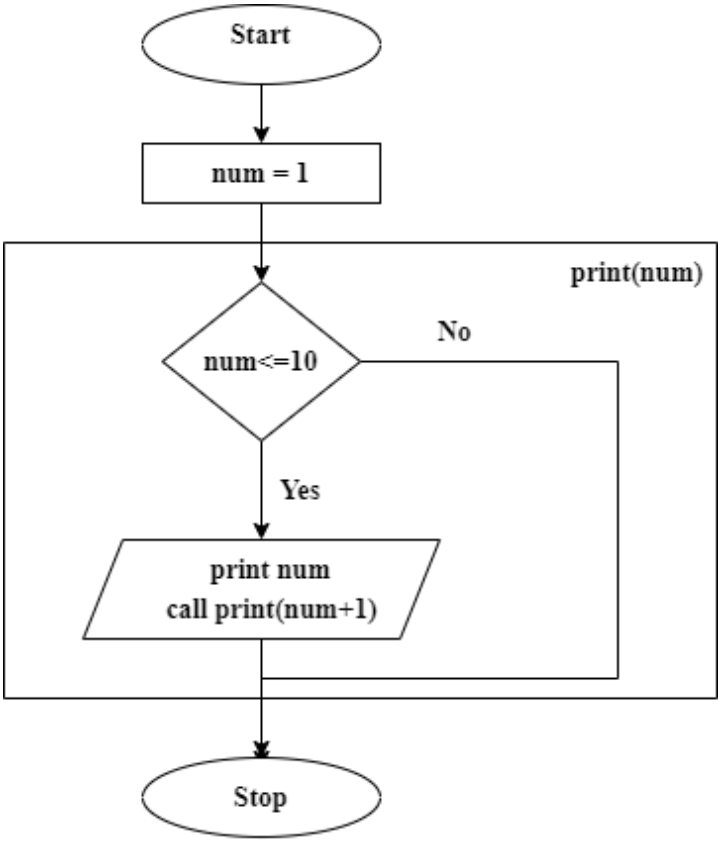


Print 1 to 10 without loop

Ans: **Algorithm**:-

1. Start
2. Call print metho
3. Define a method print
    a. Check num<=10 if true print and
       recursively call print method with num-1, else exit
4. Stop

Flowchart:-

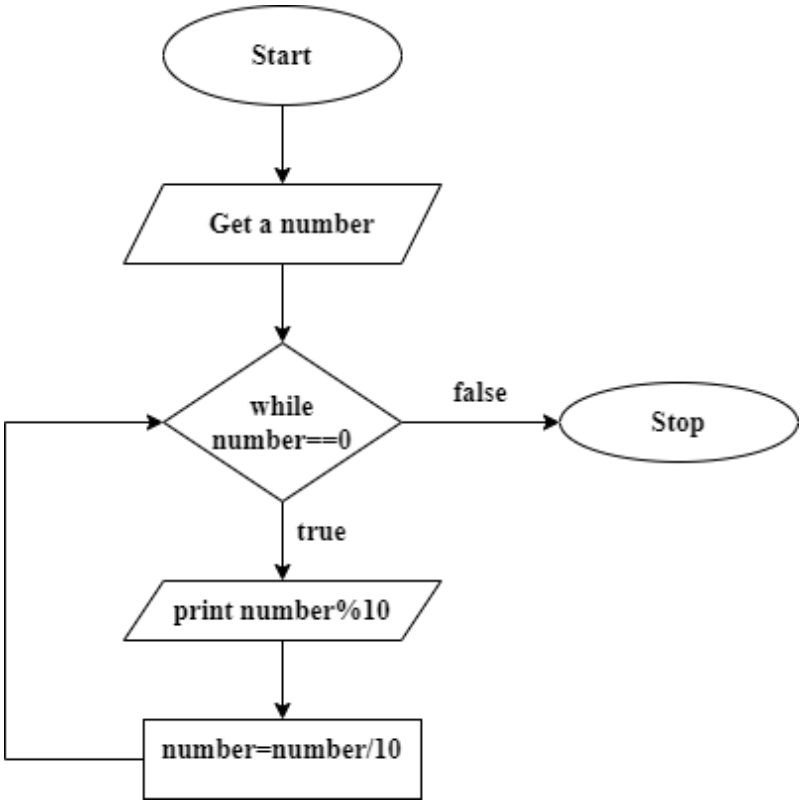


Print the digit of given number.

Ans: **Algorithm**-

1) Start
2) Get a number
3) Print the the value of number%10
4) Number=number/10;
5) Repeat step 3 to 4 until number is not equal to zero
6) Stop

Flowchart:-

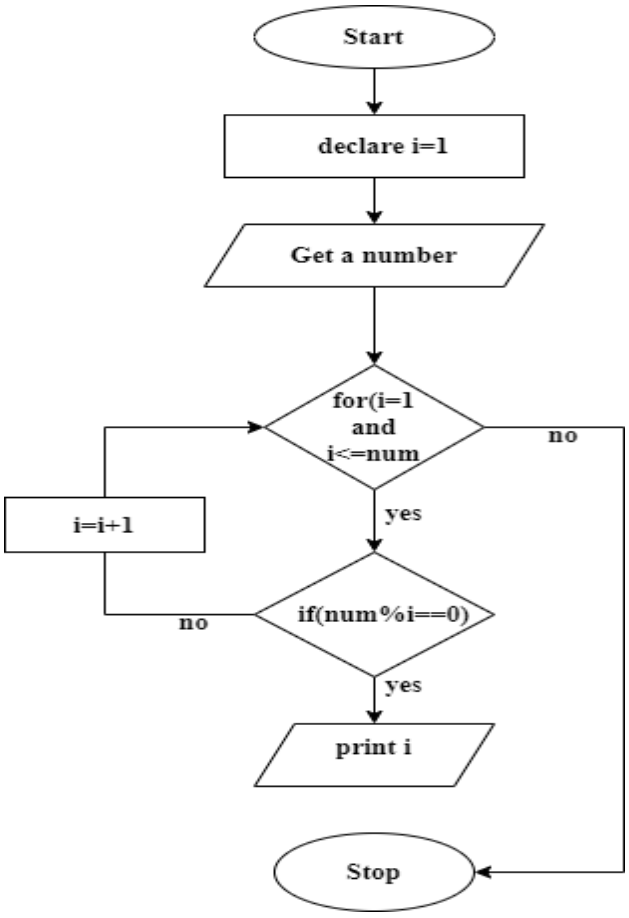


Factor of given number

Ans: **Algorithm-**

1) Start
2) Get a number
3) Declare i=1
4) Check number%i==0 if true print i and increment the valur of i
5) Repeat step 4 until i<=number
6) Stop

Flowchart:-

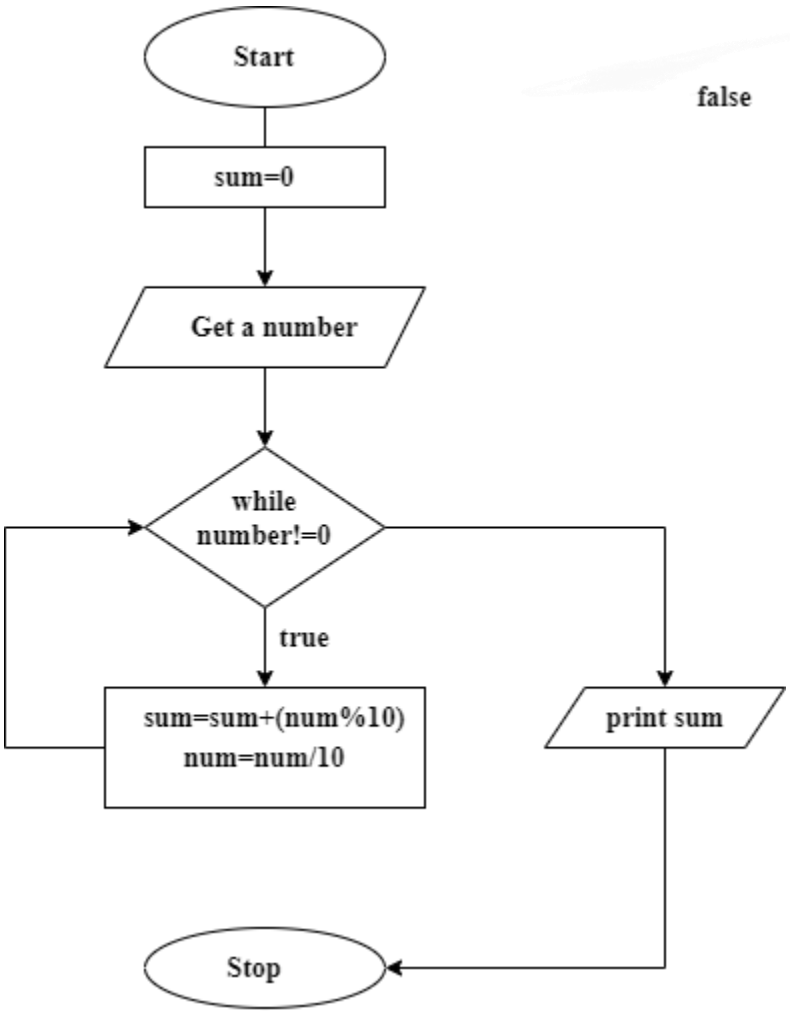


Sum of digit of given number

Ans: **Algorithm**:-

1) Start
2) Get a number
3) Set sum=1
4) While(number!=0)
   Sum=sum+(number%10)
   Num=num/10
5) Print sum
6) Stop

Flowchart

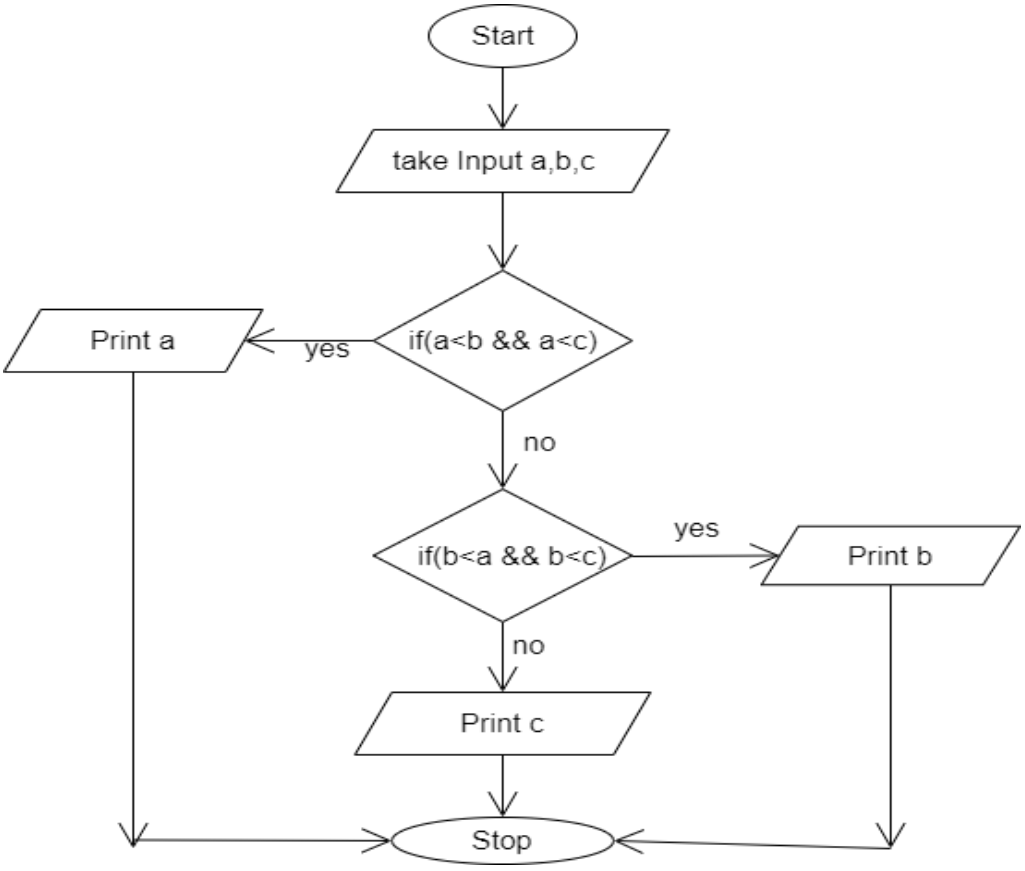


Smallest of three numbers

Ans: **Algorithm**:-

1. Start
2. Get three numbers from user
3. Check if a<b and a<c, if true print a and exit else go to step 4
4. Check if b<a and b<c, if true print b and exit else go to step 5
5. Print c
6. Stop

Flowchart:-

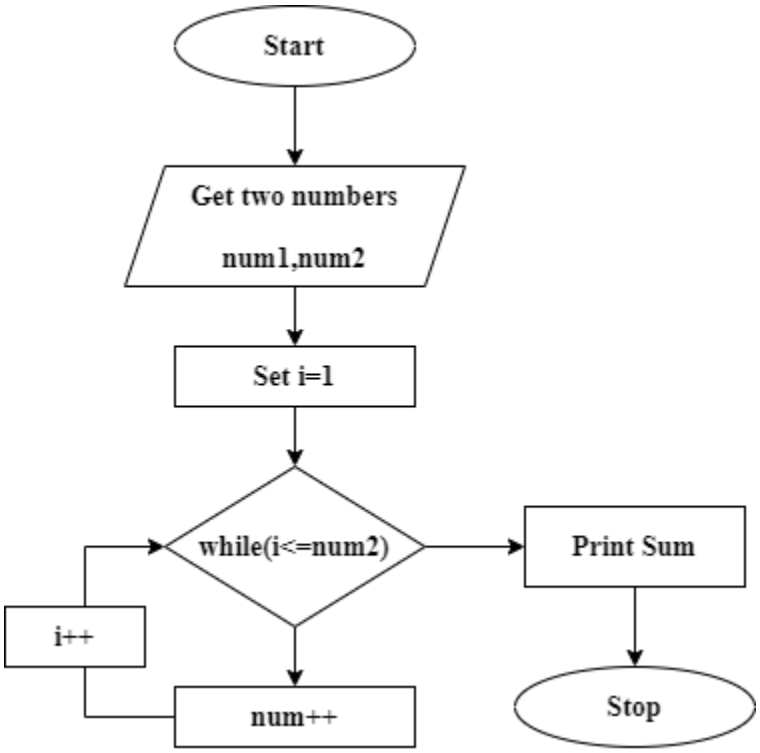


Addition without arithmetic operator

Ans: **Algorithm:-**

1. Start
2. Get two number
3. Call addNum(num1,num2) method
4. For(i=1;i<=num2;i++)
    a. Num1++
5. Print Sum
6. Stop

Flowchart:-

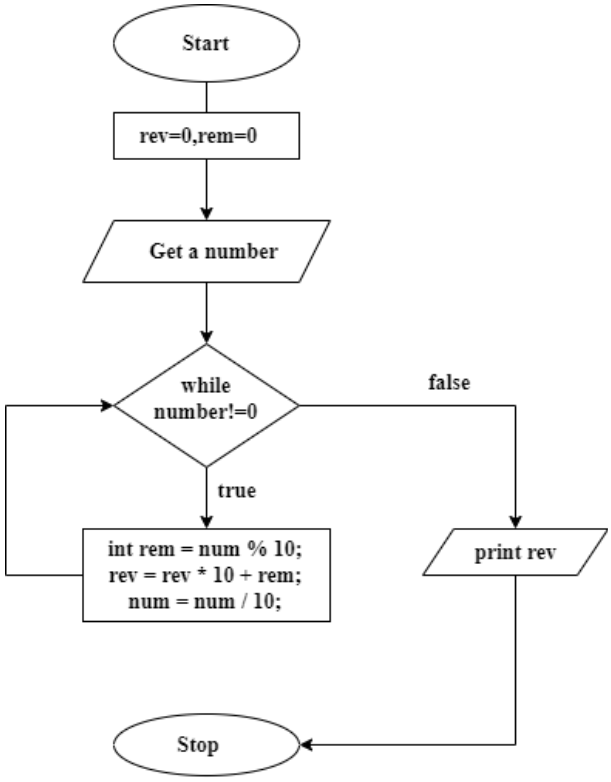


Reverse a given number

Ans: **Algorithm-**

1) Start
2) Get a number
3) Set rem=0, rev=0
4) While(number!=0)
    a. int rem = num % 10
    b. rev = rev * 10 + rem
    c. num = num / 10
5) Print rev
6) Stop

Flowchart:-

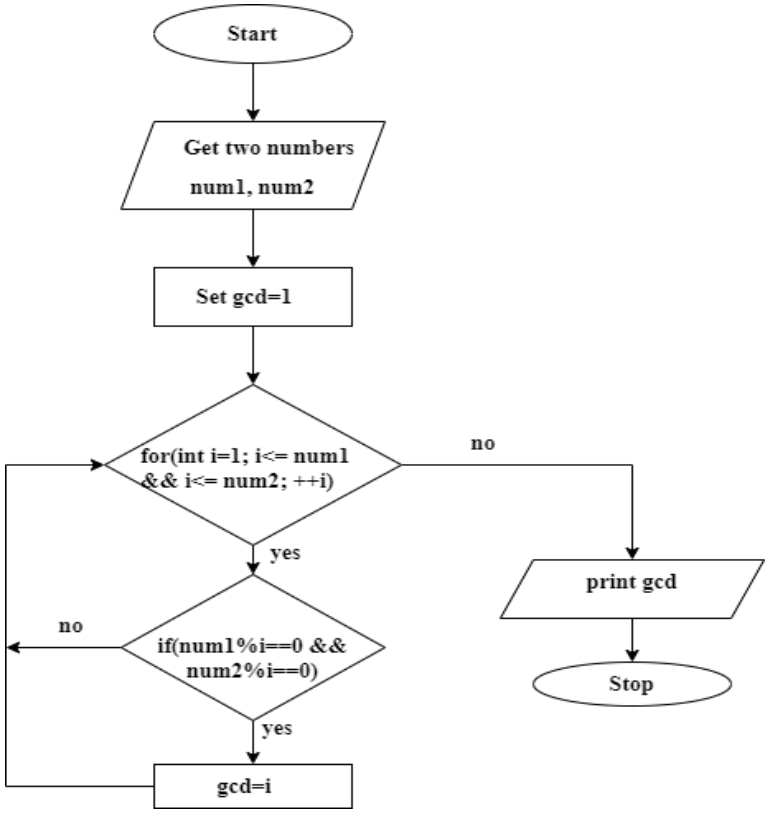


GCD of two number

Ans: **Algorithm**:-

1) Start
2) Get two number num1,num2
3) Set gcd=1
4) for(int i=1; i<= num1 && i<= num2; ++i)
   if(num1%i==0 && num2%i==0)
   set gcd=i
5) Print GCD
6) Stop

Flowchart:-

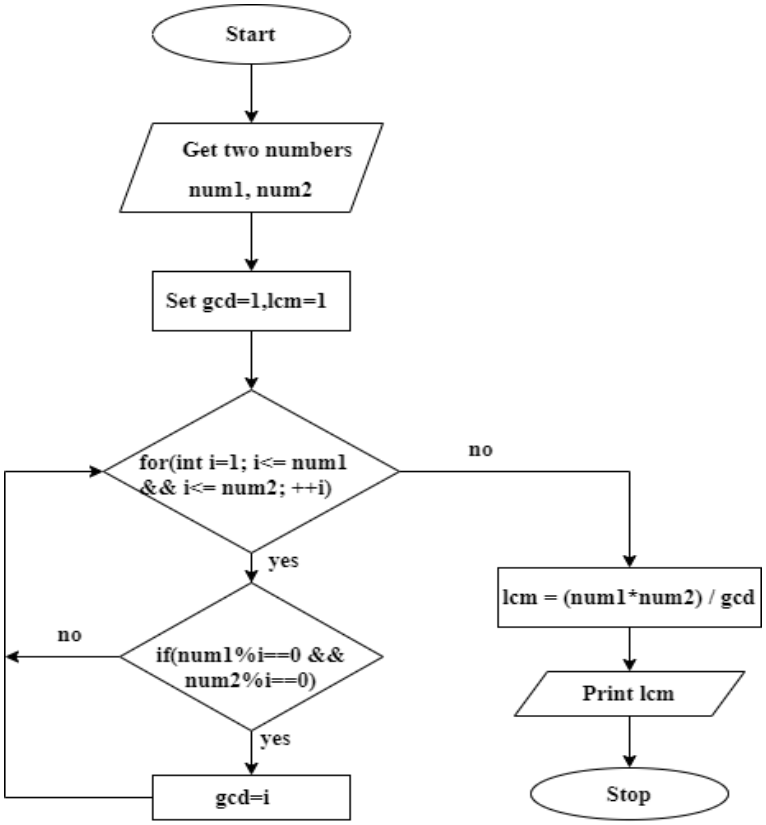


LCM of two numbers

Ans: **Algorithm**:-

1) Start
2) Get two number num1,num2
3) Set gcd=1
4) for(int i=1; i<= num1 && i<= num2; ++i)
   if(num1%i==0 && num2%i==0)
   set gcd=i
5) lcm=(num1*num2)/gcd
6) print LCM
7) Stop

Flowchart:-



Check Palindrome number or not.

Ans: **Algorithm**:-

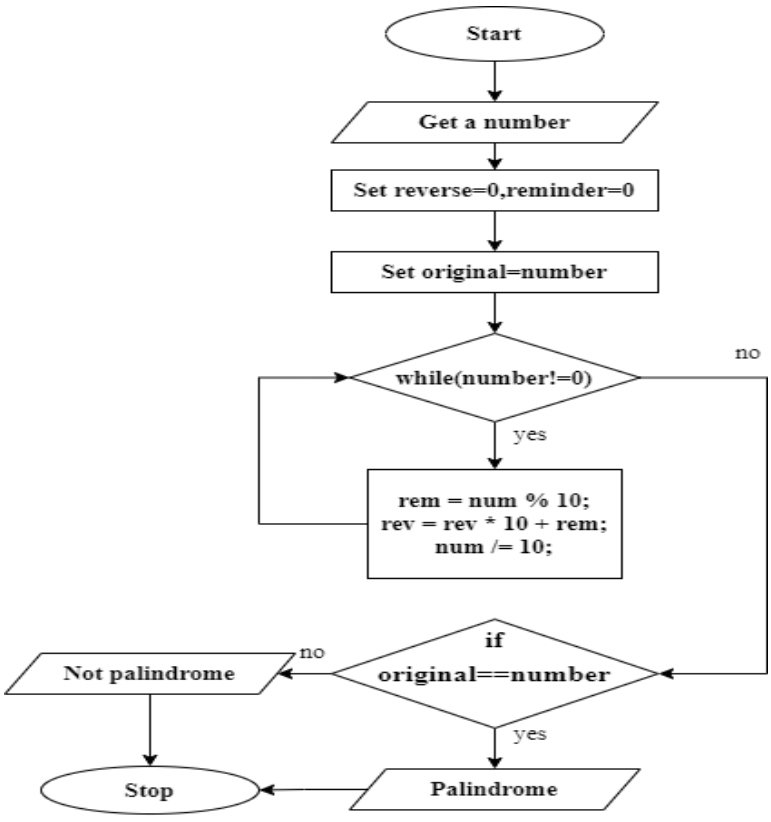
1) Start
2) Get a number
3) Set reverse=0 and reminder=0
4) Set original=number
5) Check number!=0 if true go to 5 else goto 7
6) rem = num % 10;

   rev = rev * 10 + rem;

   num /= 10;

7) check if original==number if true print palindrome else print not palindrome
8) stop

Flowchart:-

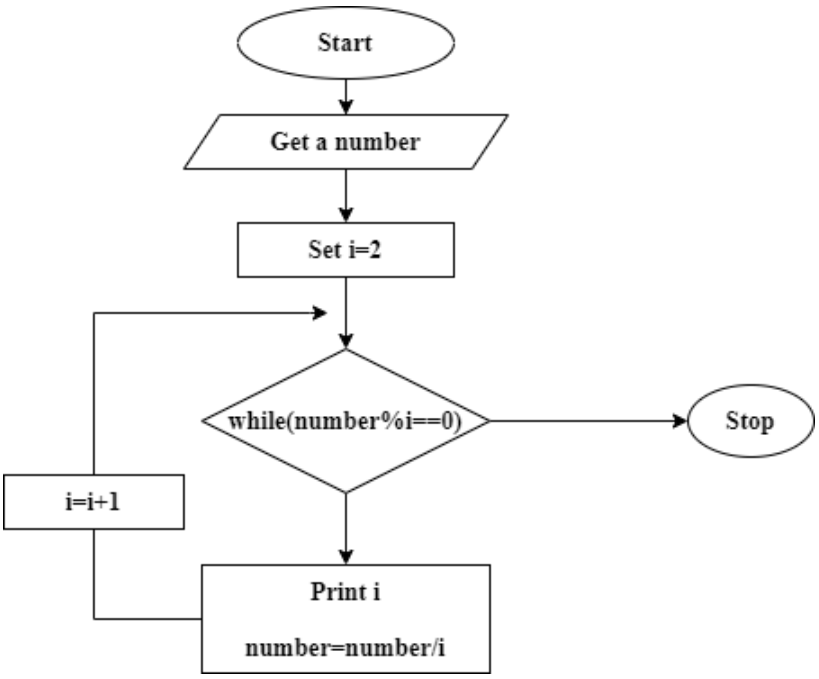


Prime Factor of given number

Ans: **Algorithm**:-

1. Start
2. Enter the Number.
3. Take i=2.
4. Check the Input Number is greater than Then enter in loop.
    a. while(Number is greater than 1)
    b. Check the condn if(Number%i==0)
    c. if it is true enter in bracket.
    d. print(i) value on terminal
    e. Number=Number/I else i++ then loop will iteration again
5. Stop

Flowchart-

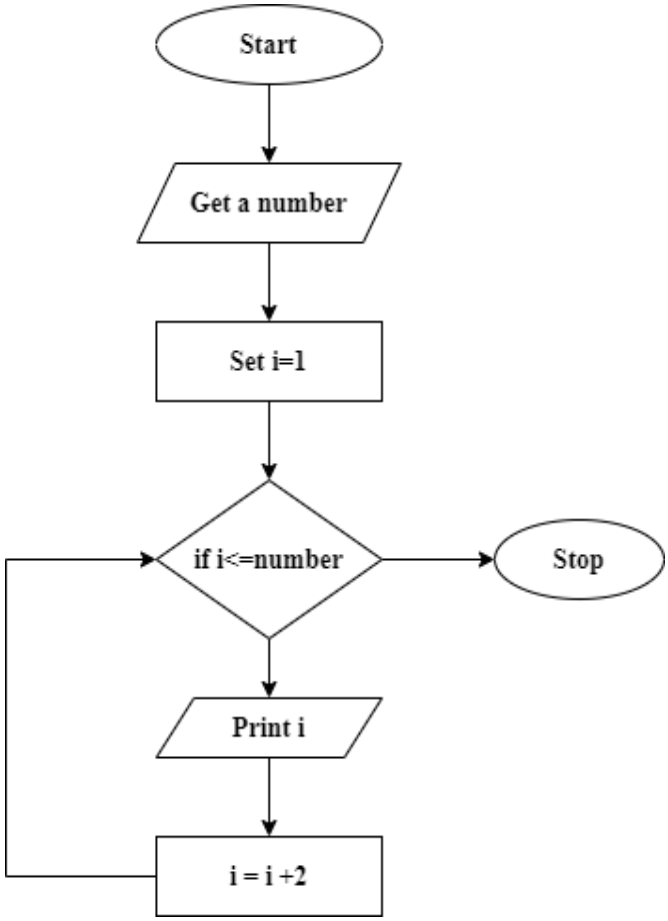


Even series

Ans: **Algorithm**:-

1. Start
2. Get a number from user upto which they want to print even number
3. Set i=2
4. If i<=number, print i and i=i+2. Else go to step 6
5. Repeat step 4 until i<=number
6. Stop

Flowchart:-



odd series

Ans: **Algorithm**:-

1. Start
2. Get a number from user upto which they want to print even number
3. Set i=1
4. If i<=number, print i and i=i+2. Else go to step 6
5. Repeat step 4 until i<=number
6. Stop

Flowchart:-