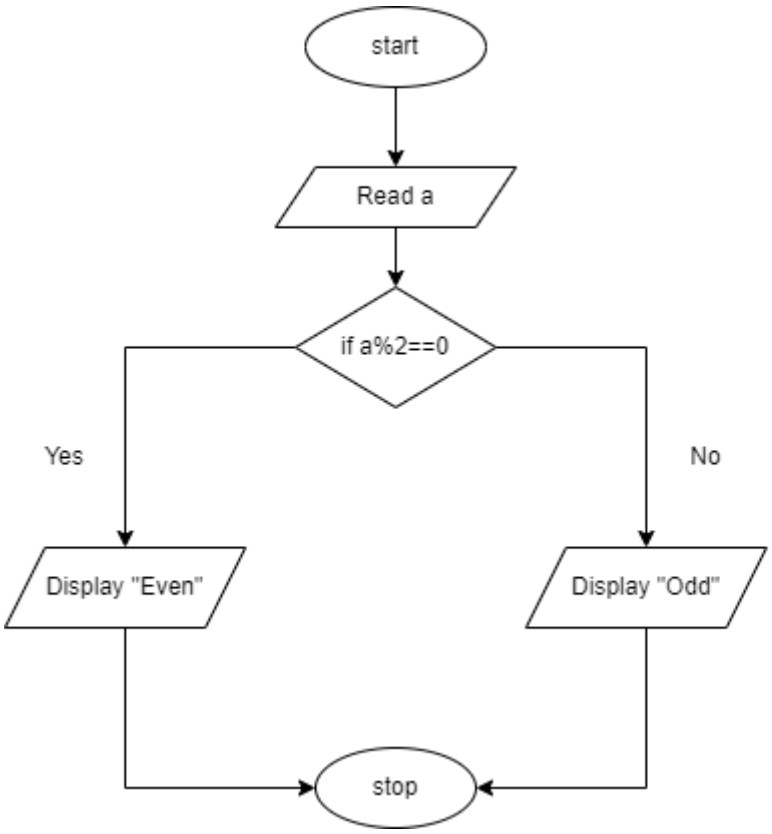
ASSIGNMENT 1

1.Check whether the given number is even or odd.

Flowchart

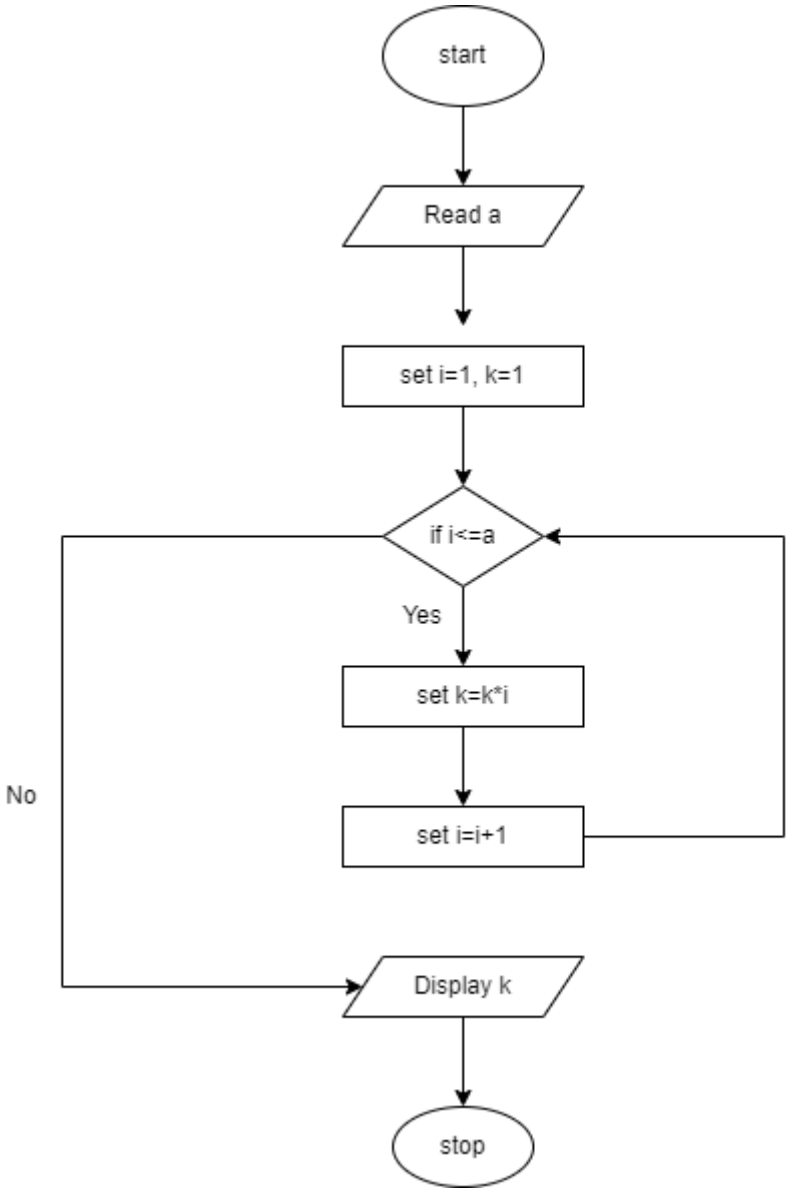


Algorithm

1. Start
2. Assign value of a.
3. If a%2 == 0.
4. Yes, Even number.
5. No, Odd Number.
6. Stop.

2. Write a program to find the factorial of a given number.

Flowchart

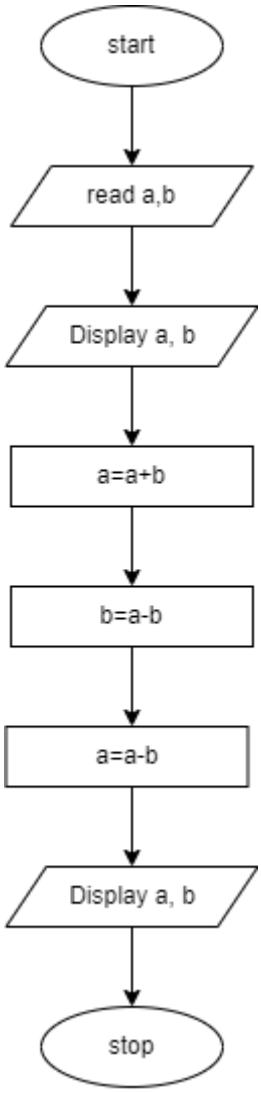


Algorithm

1. Start.
2. Take number in a variable a.
3. Initialize variable k with 1.
4. Initialize loop control variable i with 1.
5. Check if i is less than or equal to a. If the condition is false, go to step 8.
6. Multiply k with i.
7. Increment i. Go to step 5.
8. Print output k.
9. Stop.

4.Swap two numbers without using the third variable approach.

Flowchart

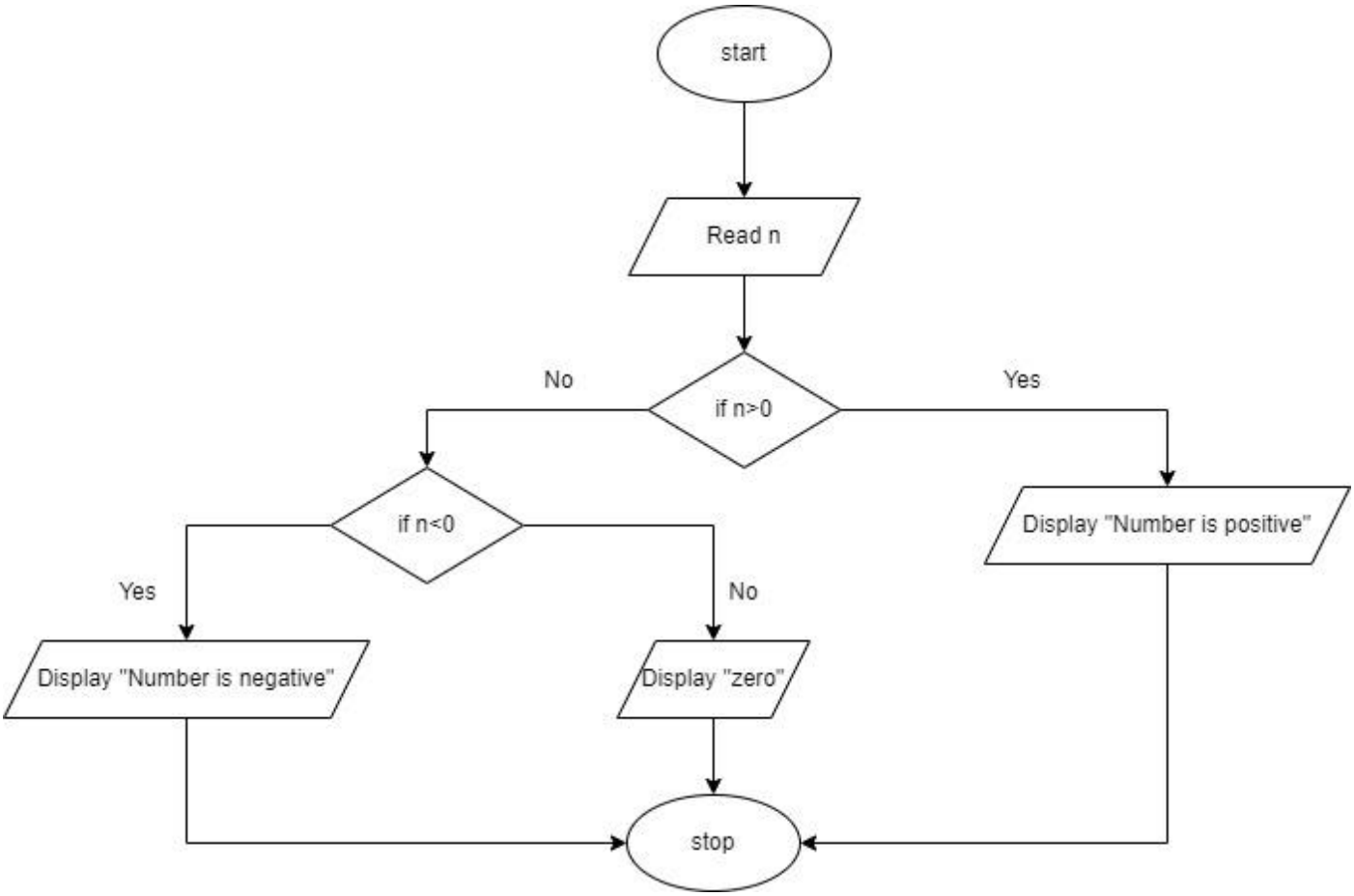


Algorithm

1. Start.
2. Read a number in a, b.
3. Display a,b.
4. Assign a=a+b
5. Assign b=a-b
6. Assign a=a-b.
7. Print a and b.
8. Stop.

5.How to check whether the given number is positive or negative in java?

Flowchart

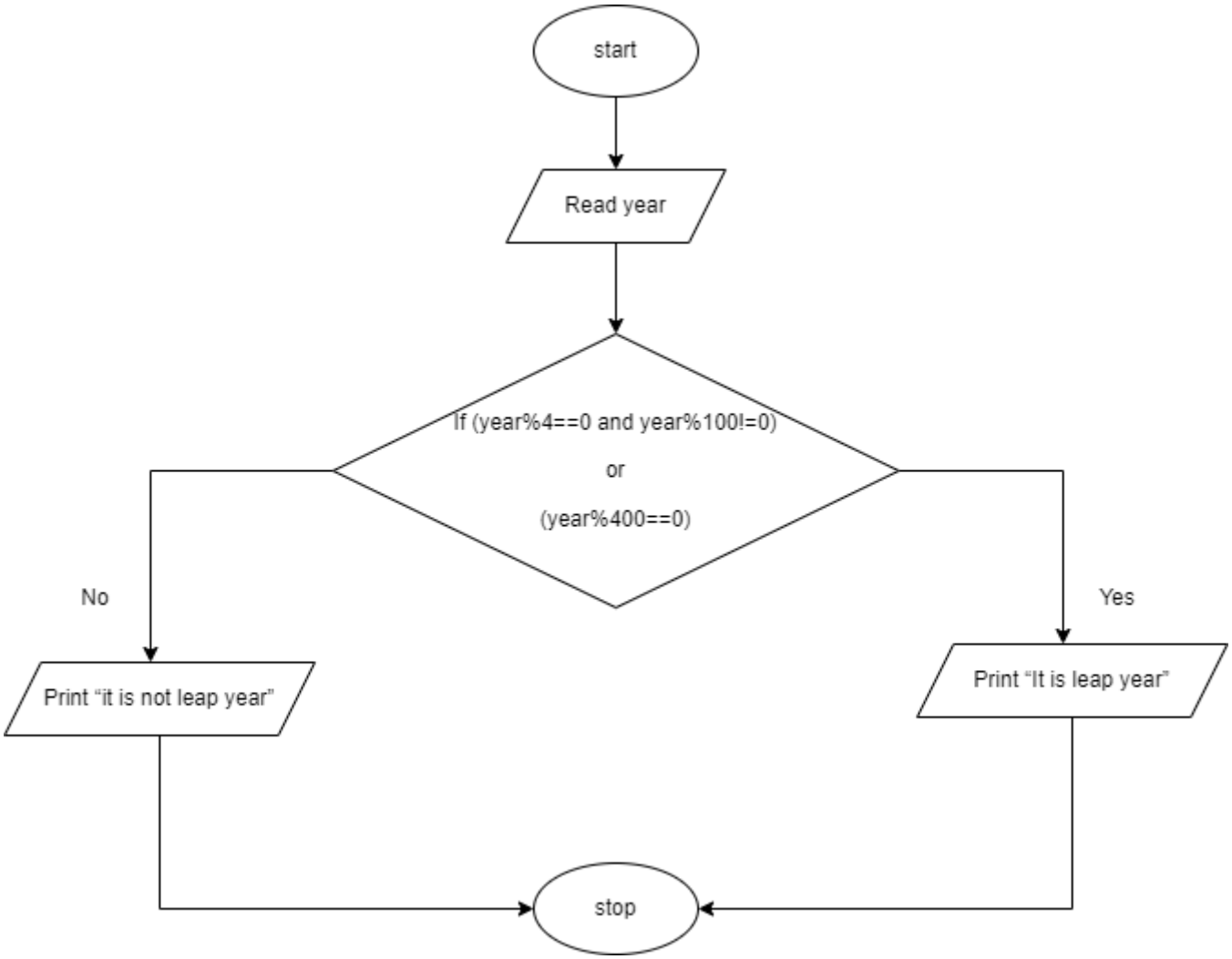


Algorithm

1. Start
2. Assign n
3. If n>0.Yes, the number is positive.
4. if n>0. No, check if n<0
5. yes, print number is negative
6. No, print zero
7. stop

6.Write a Java program to find whether a given number is leap year or not.

Flowchart

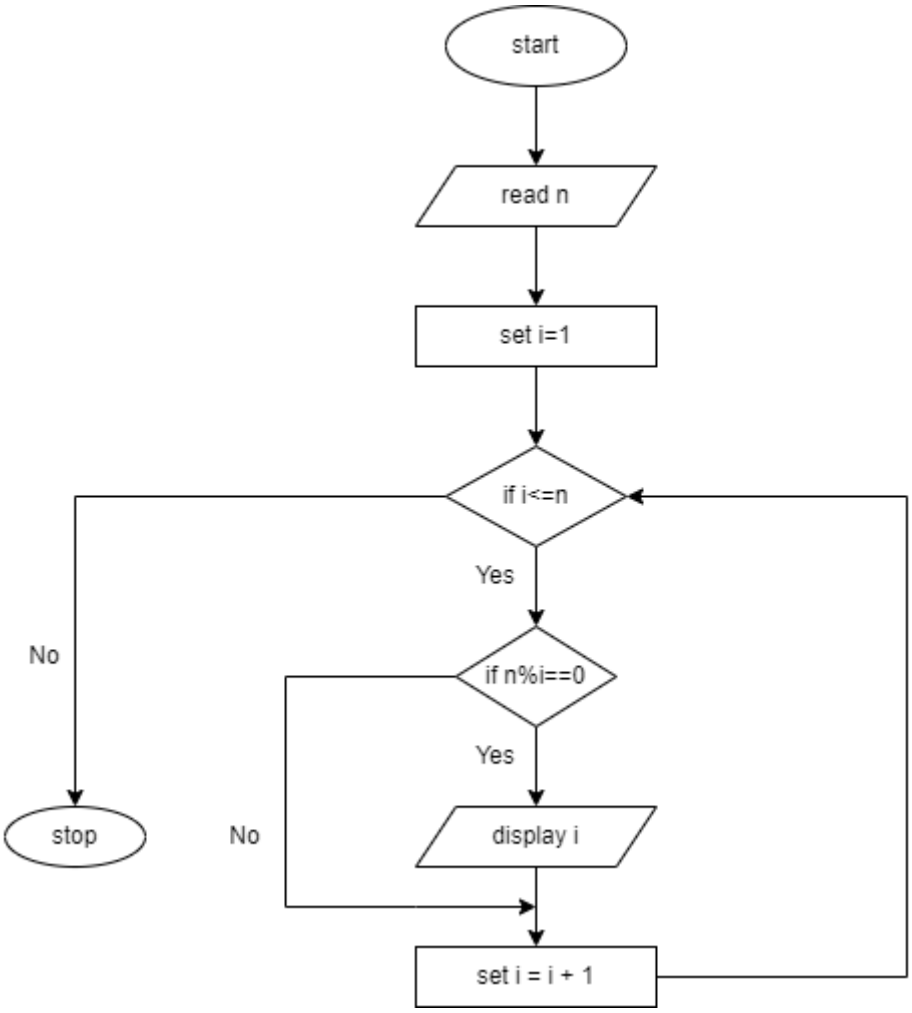


Algorithm

1. Take integer variable year
2. Assign a value to the variable
3. Check if the year is divisible by 4 but not 100, DISPLAY "leap year"
4. Check if the year is divisible by 400, DISPLAY "leap year"
5. Otherwise, DISPLAY "not leap year"

9.Write a program to print all factors of a given number.

Flowchart

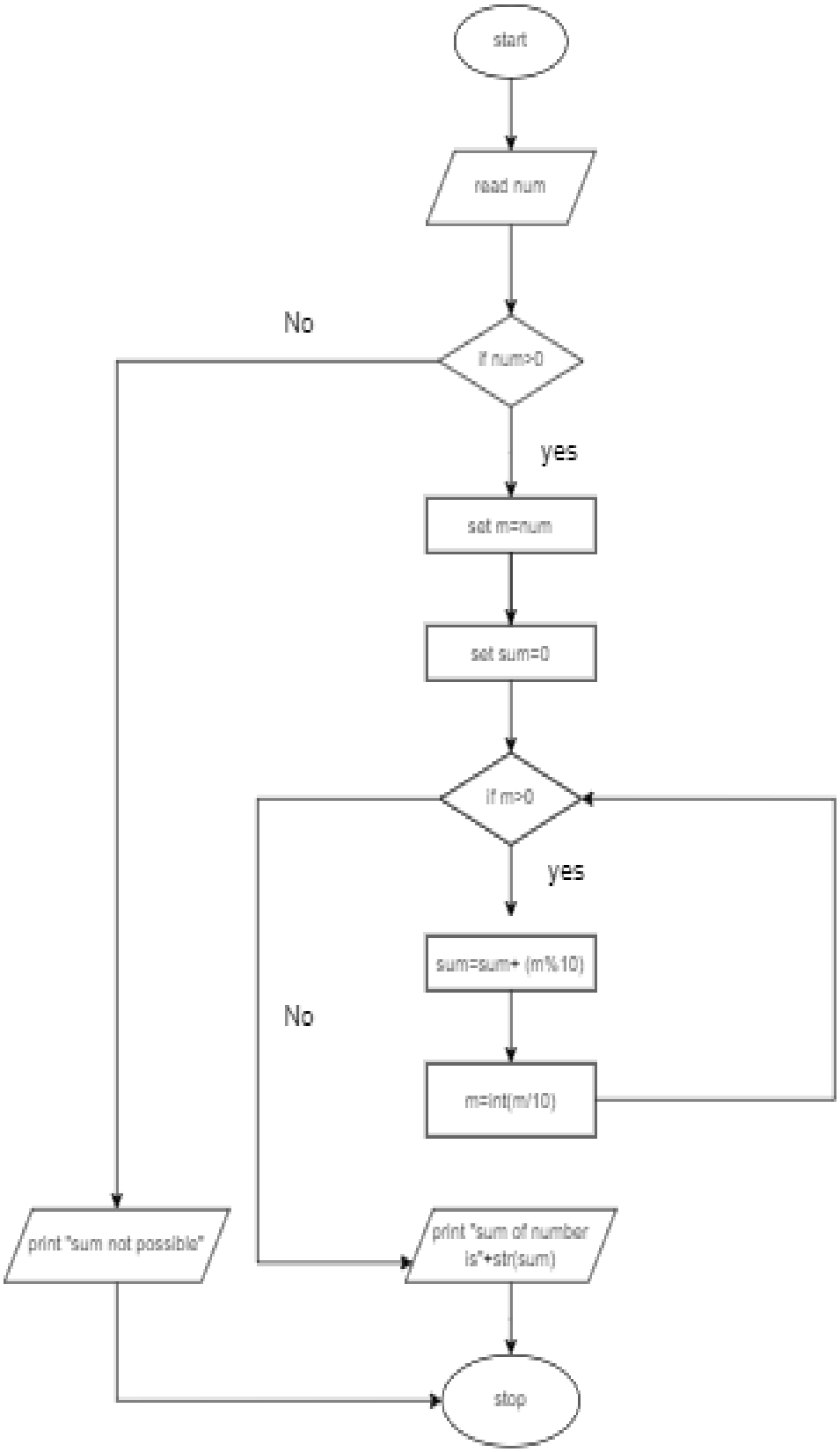


Algorithm

1. Read n
2. Set i = 1
3. If i <=n then go to step 4, otherwise go to step 7
4. If n is fully divisible by i then go to step 5, otherwise go to step 6
5. Display i
6. Increment i by 1 then go to step 3
7. Stop

10.Write a Java program to find sum of digit of given number.

Flowchart

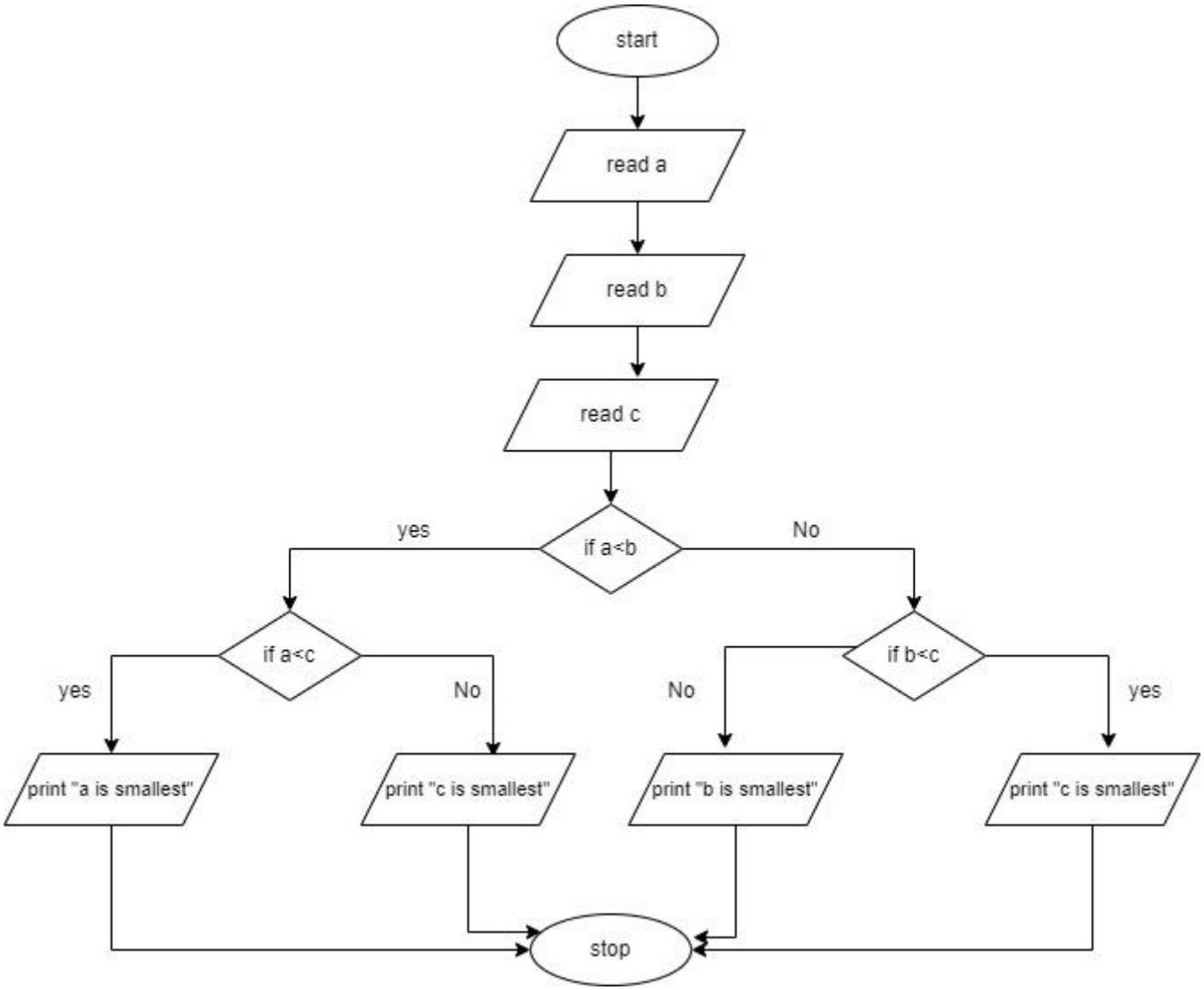


Algorithm

1. Read integer variable num
2. if num>0 then go to step 3, else go to step 9
3. set m=num
4. set sum=0
5. if m>0 then go to step 6, else go to step 8
6. set sum=sum+sum%10
7. set m = m/10 then go to step 5
8. Display “sum of digits are “+string(sum) then go to step 10
9. Display “sum not possible” then go to step 10
10. stop

11.Write a Java program to find smallest of 3 numbers(a,b,c).

Flowchart

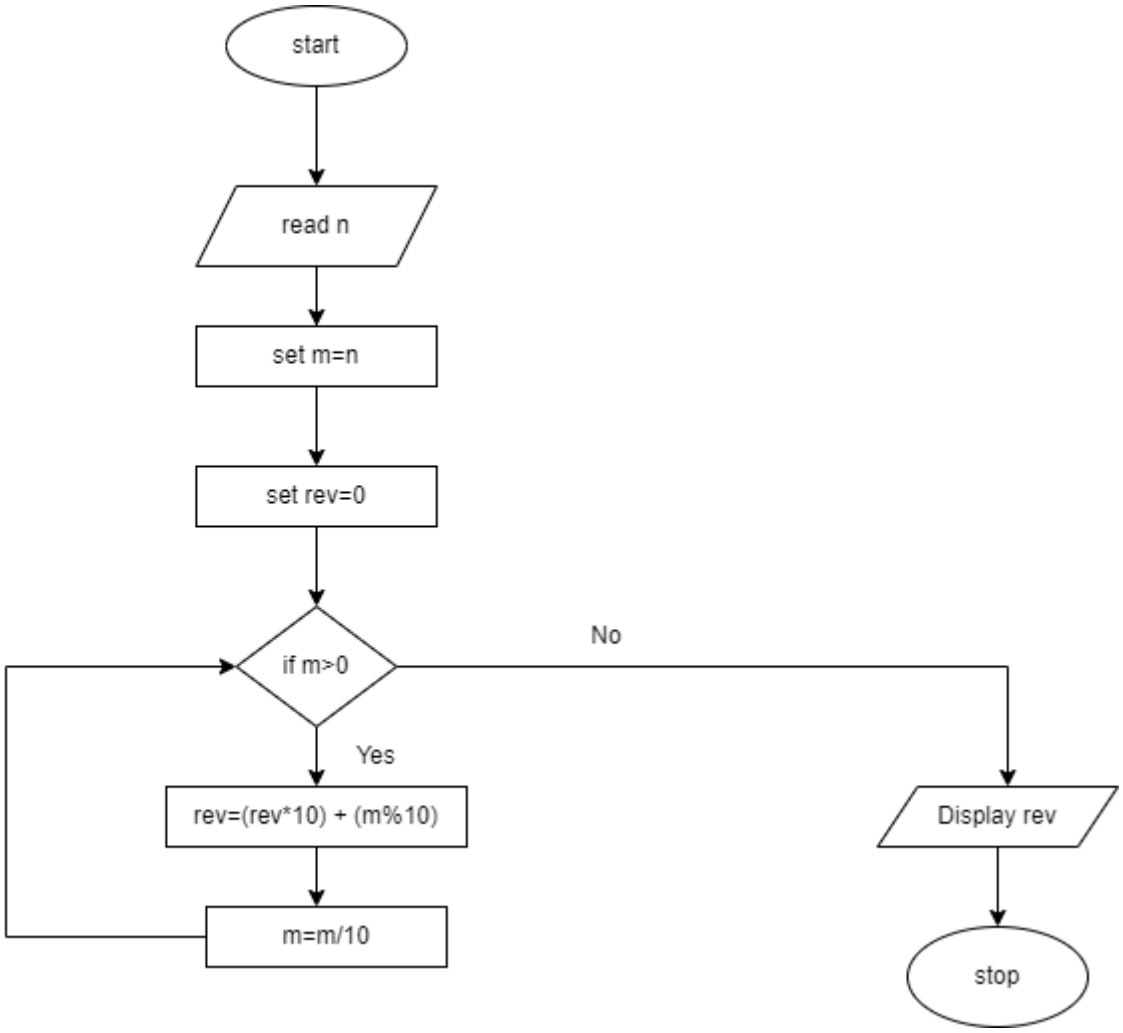


Algorithm

1. Start
2. Read a,b,c
3. If a<b then go to step 3, else go to step 6
4. If a<c then go to step 4, else go to step 5
5. Display “a is smallest”, then go to step 9
6. Display “c is smallest “, then go to step 9
7. If b<c then go to step 7, else go to step 8
8. Display “c is smallest, then go to step 9
9. Display “b is smallest, then go to step 9
10. stop

13.Write a Java program to reverse a given number.

Flowchart

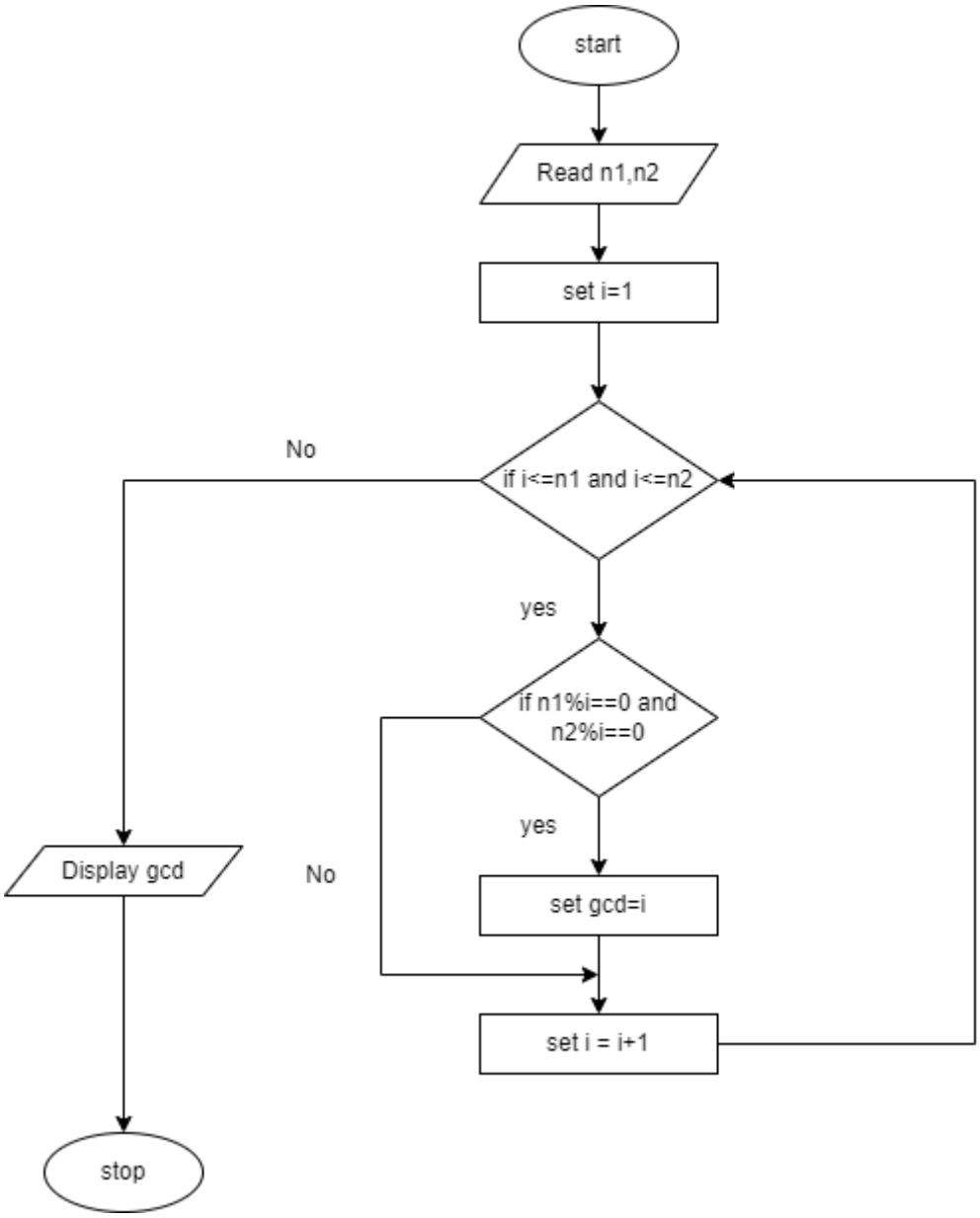


Algorithm

1. Start
2. Read number and assign it to variable m
3. Set rev=0
4. If m>0 then go to step 4, else go to step 6
5. Set rev =(rev*10) +(m%10)
6. Set m = m/10 then go to step 3
7. No, Display reverse of a number
8. Stop

14.Write a Java program to find GCD of two given numbers.

Flowchart

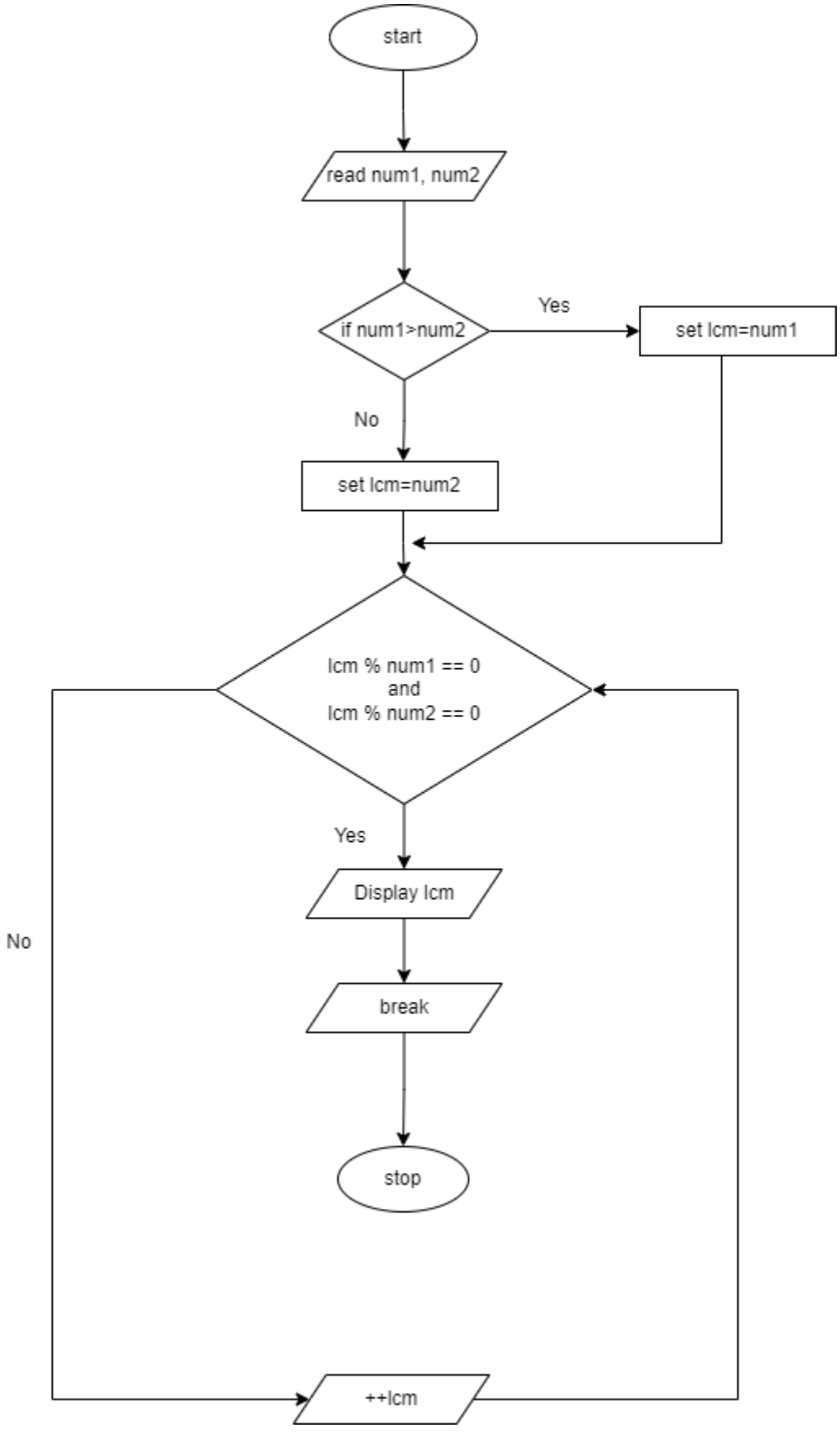


Algorithm

1. Read numbers n1, n2
2. Set i=1
3. If i<=n1 and i<=n2 then go to step 4, otherwise go to step 8
4. If n1 and n2 are fully divisible by i then go to step 5, otherwise go to step 7
5. Set gcd = i
6. Set i = i + 1 then go to step 3
7. Display output gcd.
8. stop

15.write a Java program to find LCM of two given numbers.

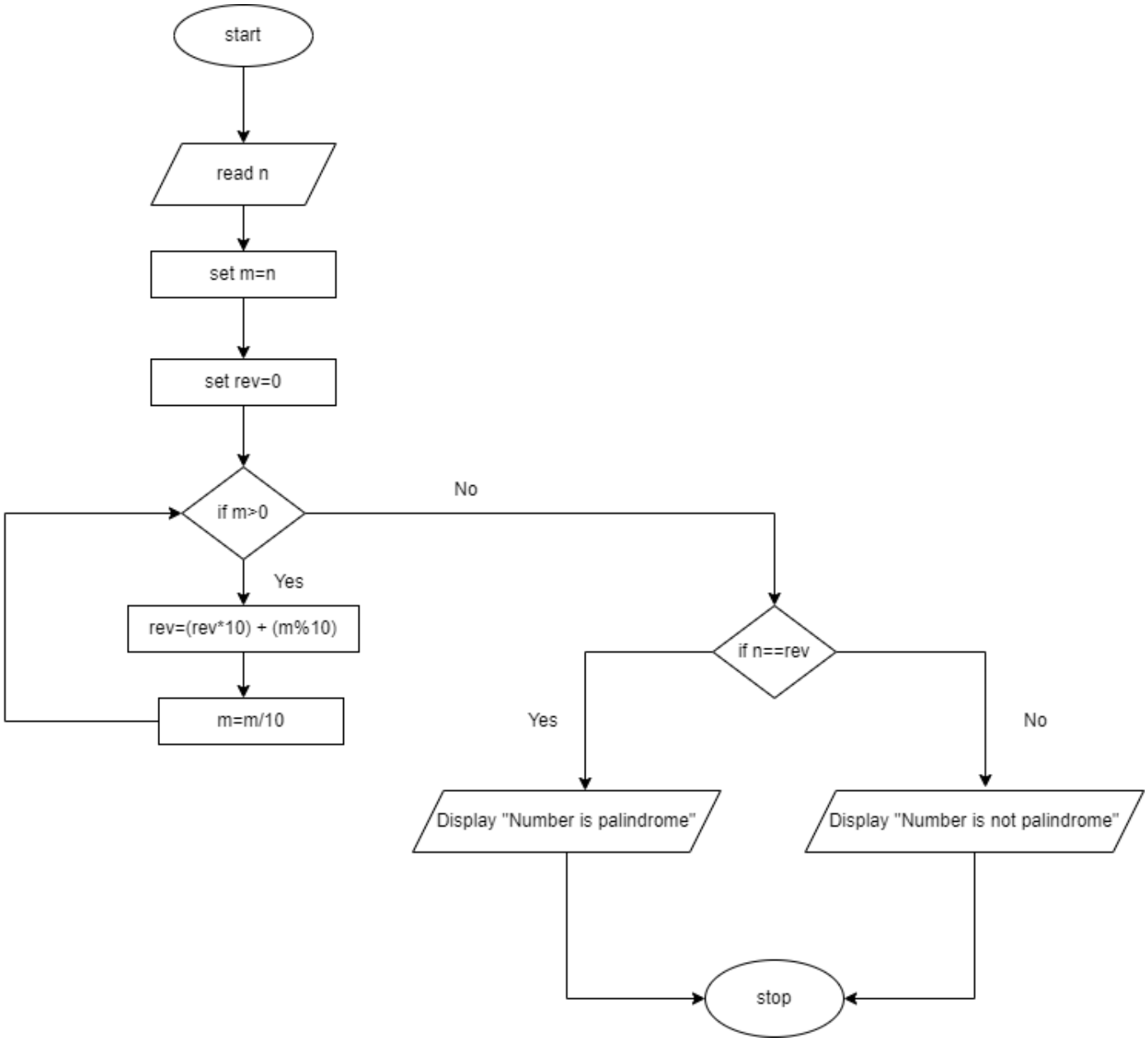
Flowchart



Algorithm

1. Read num1, num2
2. If num1>num2 then go to step 3, otherwise go to step 4
3. Set lcm=num1
4. Set lcm=num2
5. If lcm is fully divisible by both num1 and num2 then go to step 6, otherwise go to step 7
6. Display lcm then go to step 8
7. Pre-increment lcm by 1 then go to step 5
8. break
9. stop

17.Check whether given number is palindrome or not.

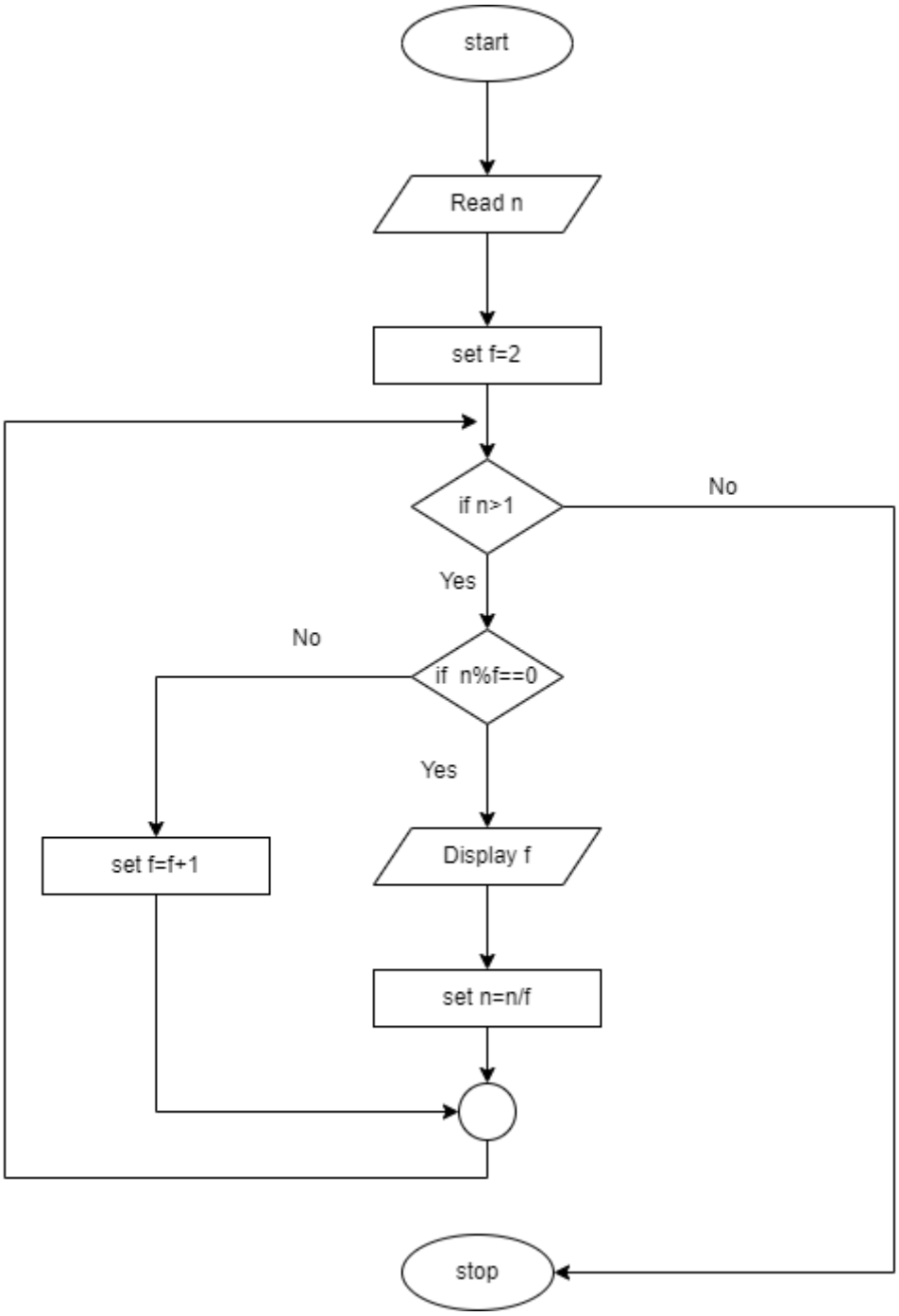


Algorithm

1. Read n
2. Set m = n
3. Set rev = 0
4. If m > 0 then go to step 5, otherwise go to step 7
5. Set rev = rev*10 + m%10(remainder)
6. Set m = m/10 then go to step 4
7. If n == rev then go to step 8, otherwise go to step 9
8. Display “Number is palindrome”
9. Display “Number is not palindrome.
10. Stop.

18.Write a java program to find all the prime factors of given number.

Flowchart

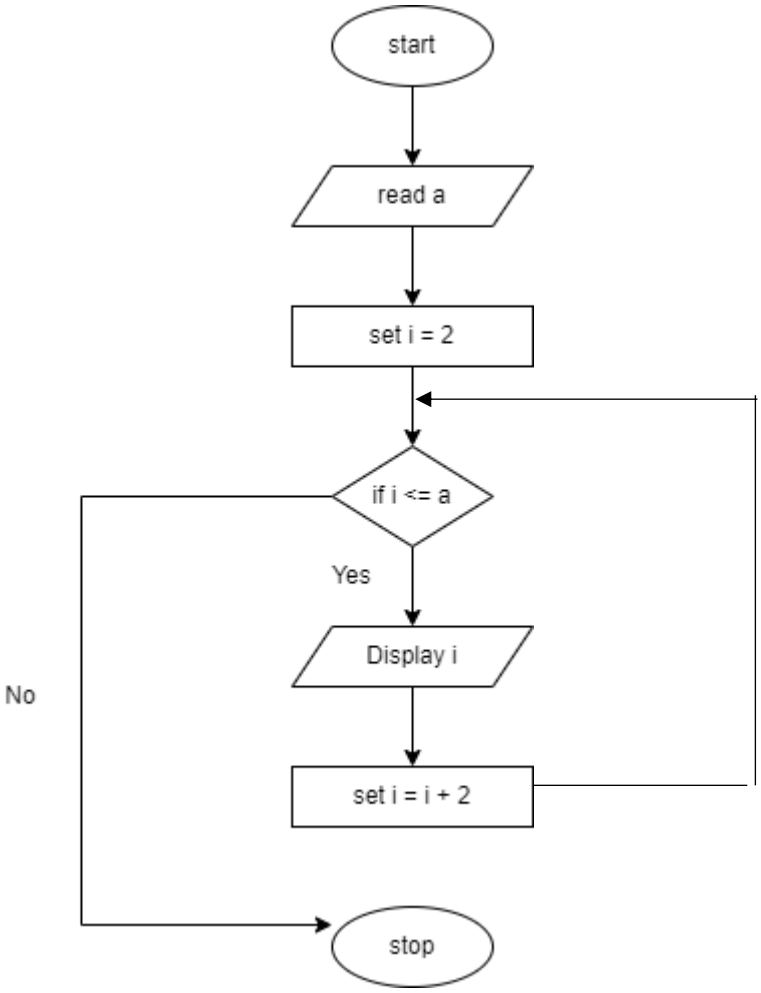


Algorithm

1. Read n
2. Set f = 2
3. If n>1 then go to step 4, otherwise go to step 8
4. If n is fully divisible by f then go to step 5, otherwise go to step 7
5. Display f
6. Set n = n/f then go to step 3
7. Increment f by 1 then go to step 3
8. Stop.

19.To print even number series – 2 4 6 8 10 12 14 ….

Flowchart

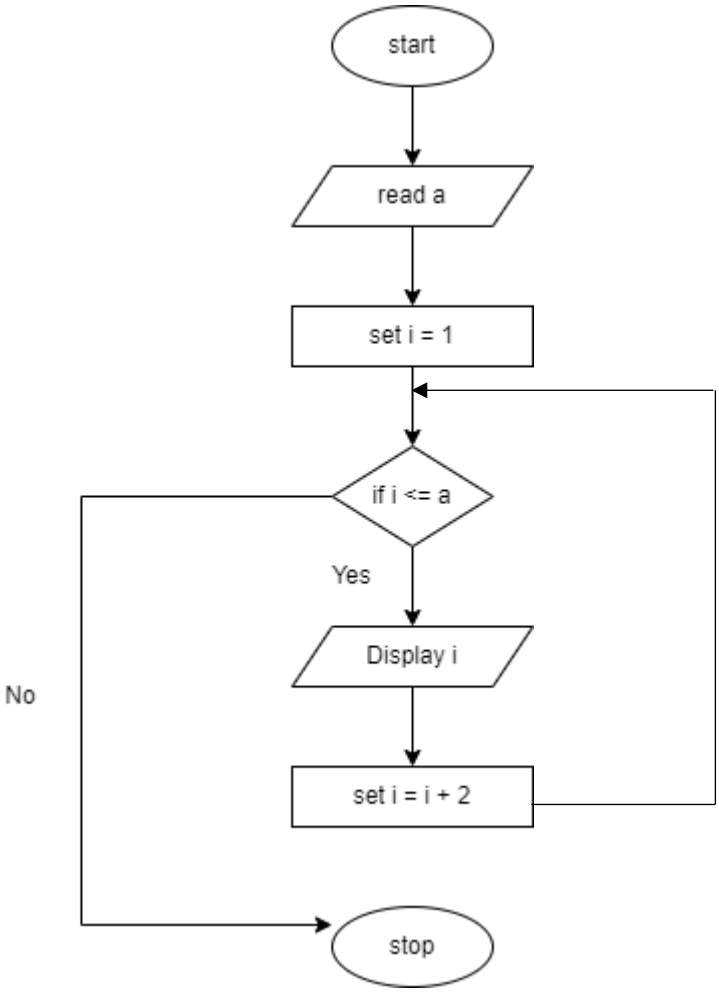


Algorithm

1. Start.
2. Take a value for a.
3. Initialize i=2.
4. Check if i<=a
5. If the condition is true, go to step 6 else go to step 9**.**
6. Print i
7. Increment i by 2.
8. Go to step 4
9. Stop

20.To print odd number series – 1 3 5 7 9 11 …..

Flowchart



Algorithm

1. Start.
2. Take a value for a.
3. Initialize i=1.
4. Check if i<=a
5. If the condition is true, go to step 6 else go to step 9**.**
6. Display i
7. Increment i by 2.
8. Go to step 4
9. Stop