Question 1—Write Algorithm and Flow chart to check if the given number is Even or Odd.

Algorithm:

Step 1- Read a number n from user.

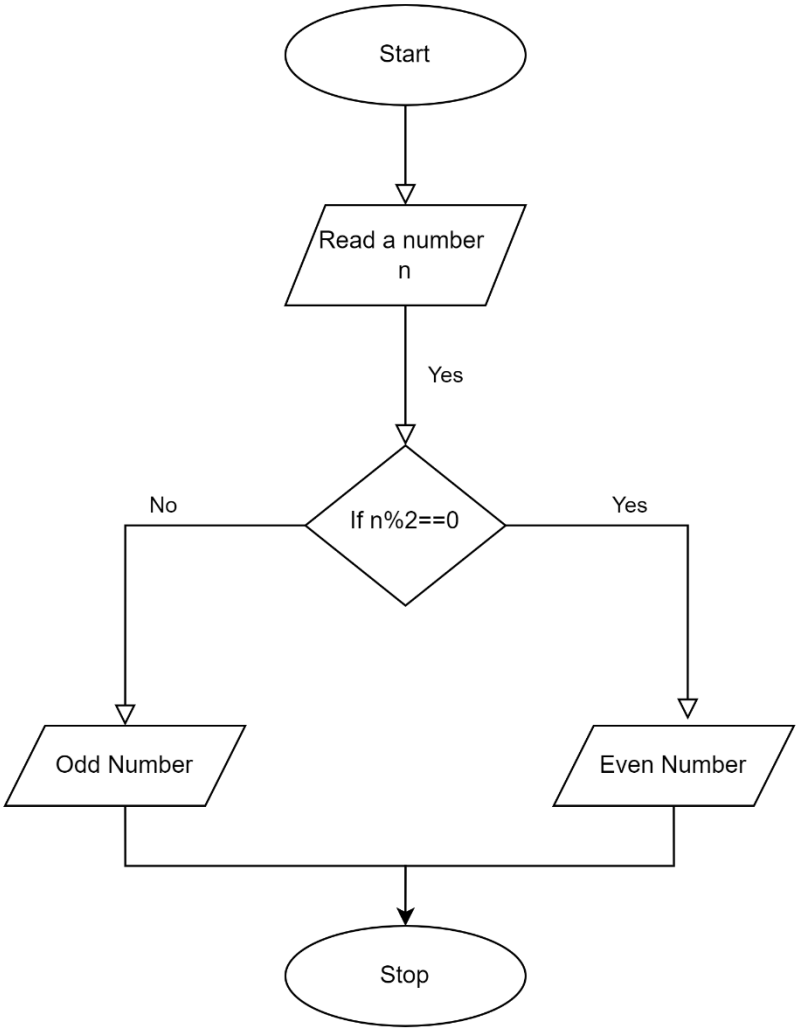
Step 2- Divide n by 2 and check if the reminder is zero.

2.1- Print Even Number.

2.2- Else print Odd Number.

Step 3- Stop

Flow Chart:



Question 2-- Write Algorithm and draw Flow chart to find the factorial of a number.

Algorithm:

Step 1- Read a number, say n.

Step 2- Initialize fact = 1.

Step 3- Perform operation fact = fact*n.

3.1- Decrement n

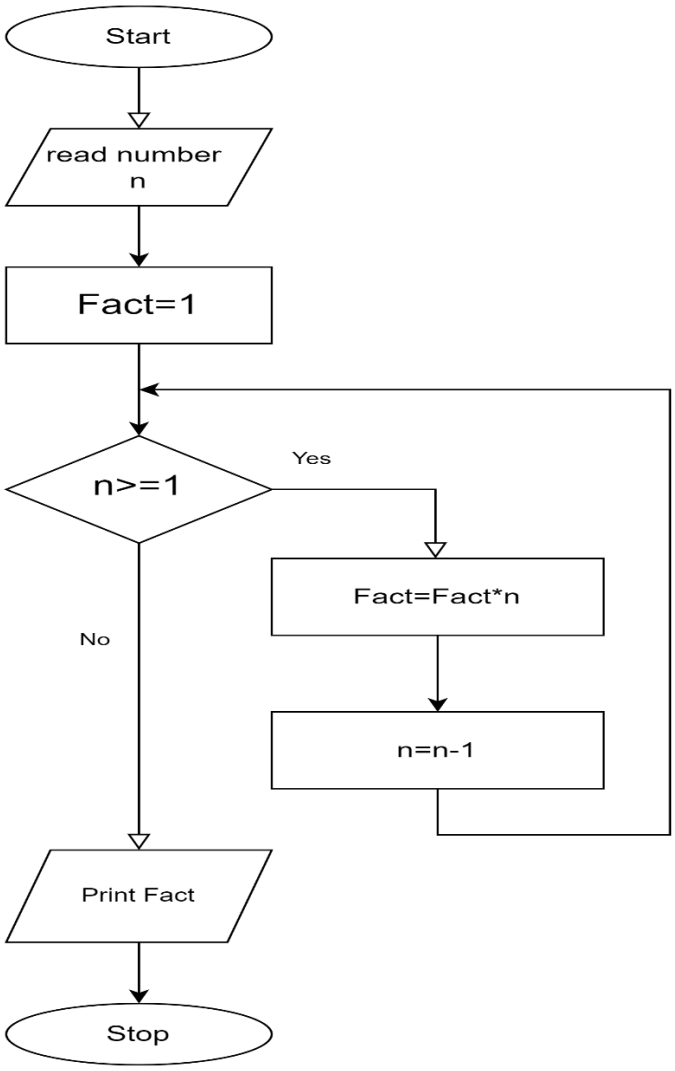
3.2- Check if n >=1.

3.3- Repeat Step 3,3.1 and 3.2, till n >=1;

Step 4- Print fact.

Stop 5- Stop.

Flow Chart:



Question 4-- Write Algorithm and draw Flow chart to swap to numbers without using the third variable.

Algorithm:

Step 1- Read two number a and b.

Step 2 Perform operation, a = a + b.

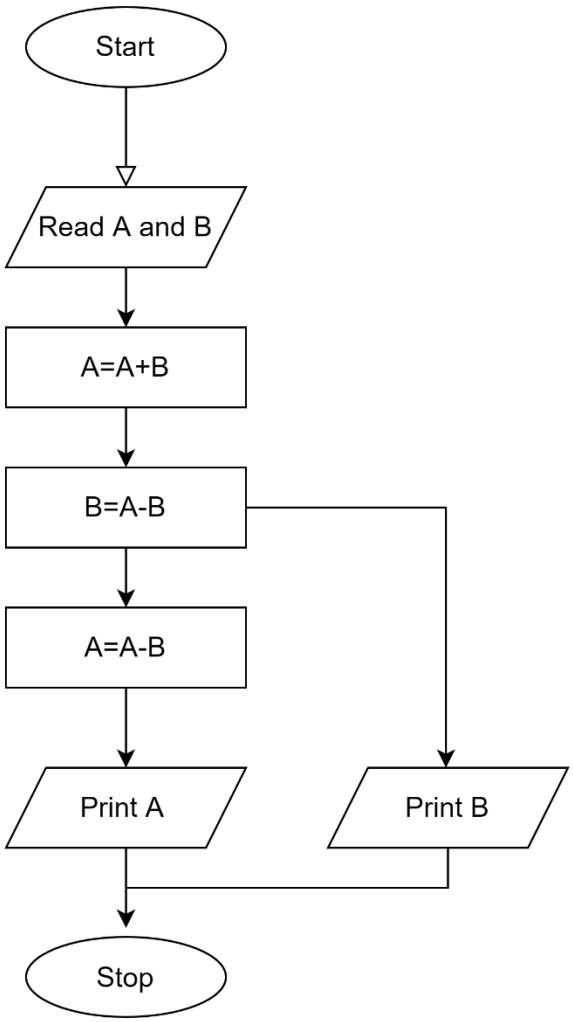
Step 3 Perform operation, b = a - b.

Step 4 Perform operation, a = a -b.

Step 5 Print a and b.

Step 6 Stop.

Flow Chart:



Question 5-- Write Algorithm and draw Flow chart to check whether a number is positive or negative in java.

Algorithm:

Step 1- Read a number, say n.

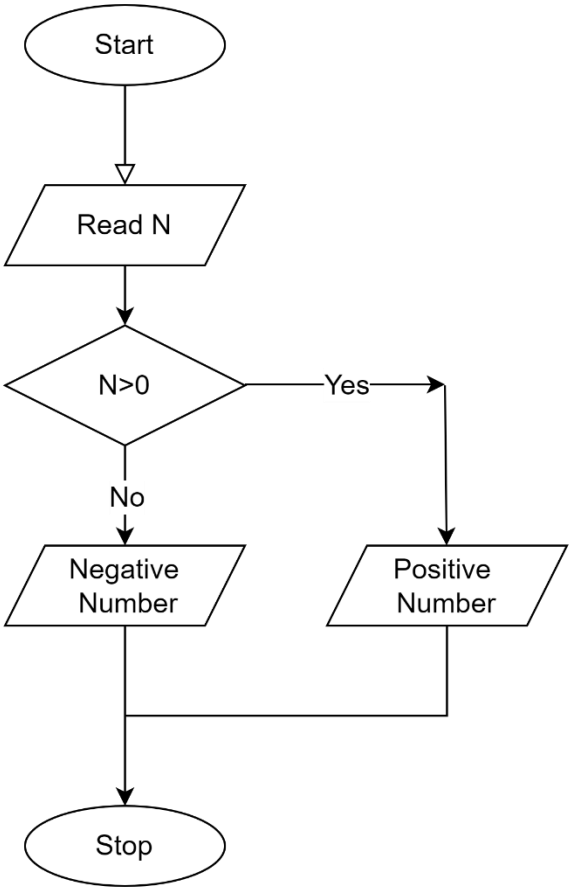
Step 2- Check if n>0.

2.1 Print positive number.

2.2 else print negative number.

Step 3- Stop.

Flow Chart:



Question 6-- Write Algorithm and draw Flow chart to check whether a year is a leap year or not.

Algorithm:

Step 1- Read a year, say y.

Step 2- Check if y is divisible by 4, then go to step 3, else go to step 6.

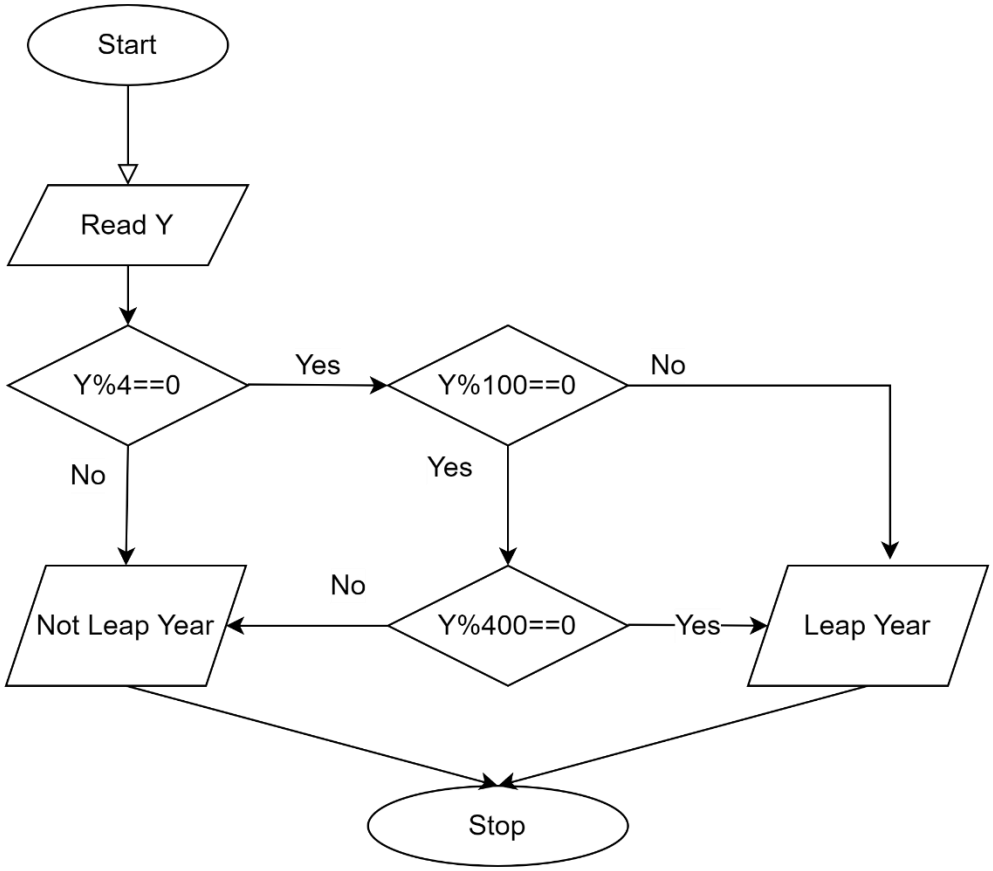
Step 3- Check if y is divisible by 100, then go to step 4, else go to step 5.

Step 4- Check if y is divisible by 400, then go to step 5, else go to step 6.

Step 5- Print year is a leap year.

Step 6- Print year is not a leap year.

Flow Chart:



Question 9-- Write Algorithm and draw Flow chart to print factors of a number.

Algorithm:

Step 1. Read a number, N.

Step 2. Initialize i=1;

2.1. divide N by i

2.2. if N is divisible by i., go to step 3.

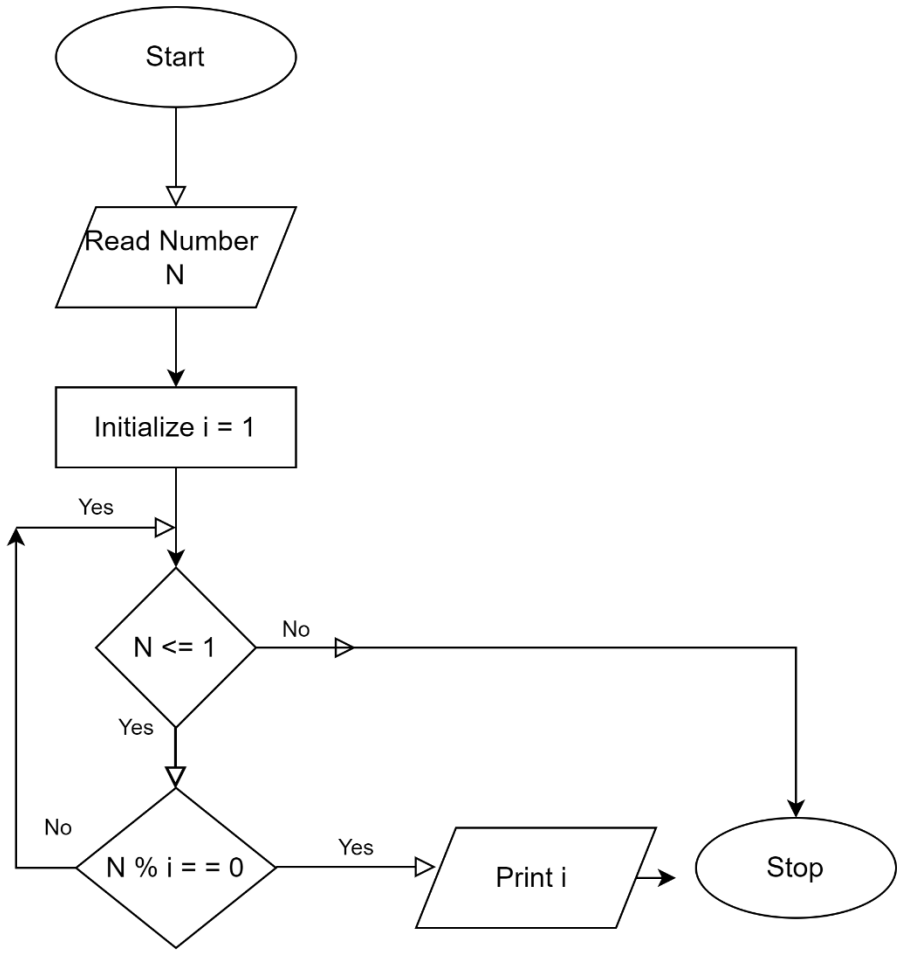
2.3. Increment the value of i as plus 1.

2.4. Repeat this process till i value becomes equal to N.

Step 3. Print value of i.

Step 4. Stop.

Flow Chart:



Question 10-- Write Algorithm and draw Flow chart to find the sum of digits of a number.

Algorithm:

Step 1. Read a number n.

Step 2. Take sum=0 and a variable r.

Step 3. r = n % 10.

Step 4. n = n/10.

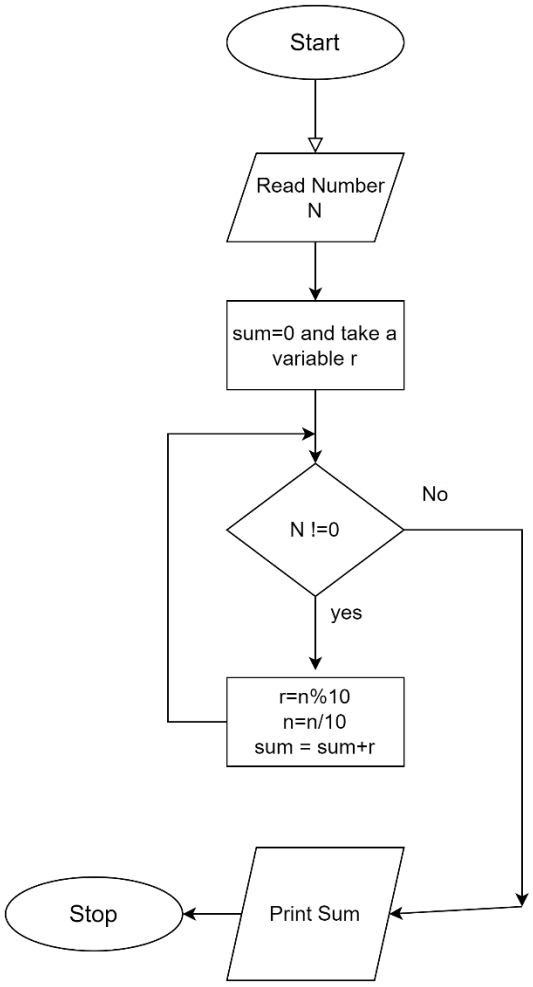
Step 5. sum = sum + r.

Step 6. Repeat step 3,4 and 5, till n is not equals to zero.

Step 7. Print sum.

Step 8. Stop.

Flow Chart:



Question 11-- Write Algorithm and draw Flow chart to find the smallest of the three numbers.

Algorithm:

Step 1. Take three numbers in a, b, c.

Step 2. Check if a is less than b and a is less than c.

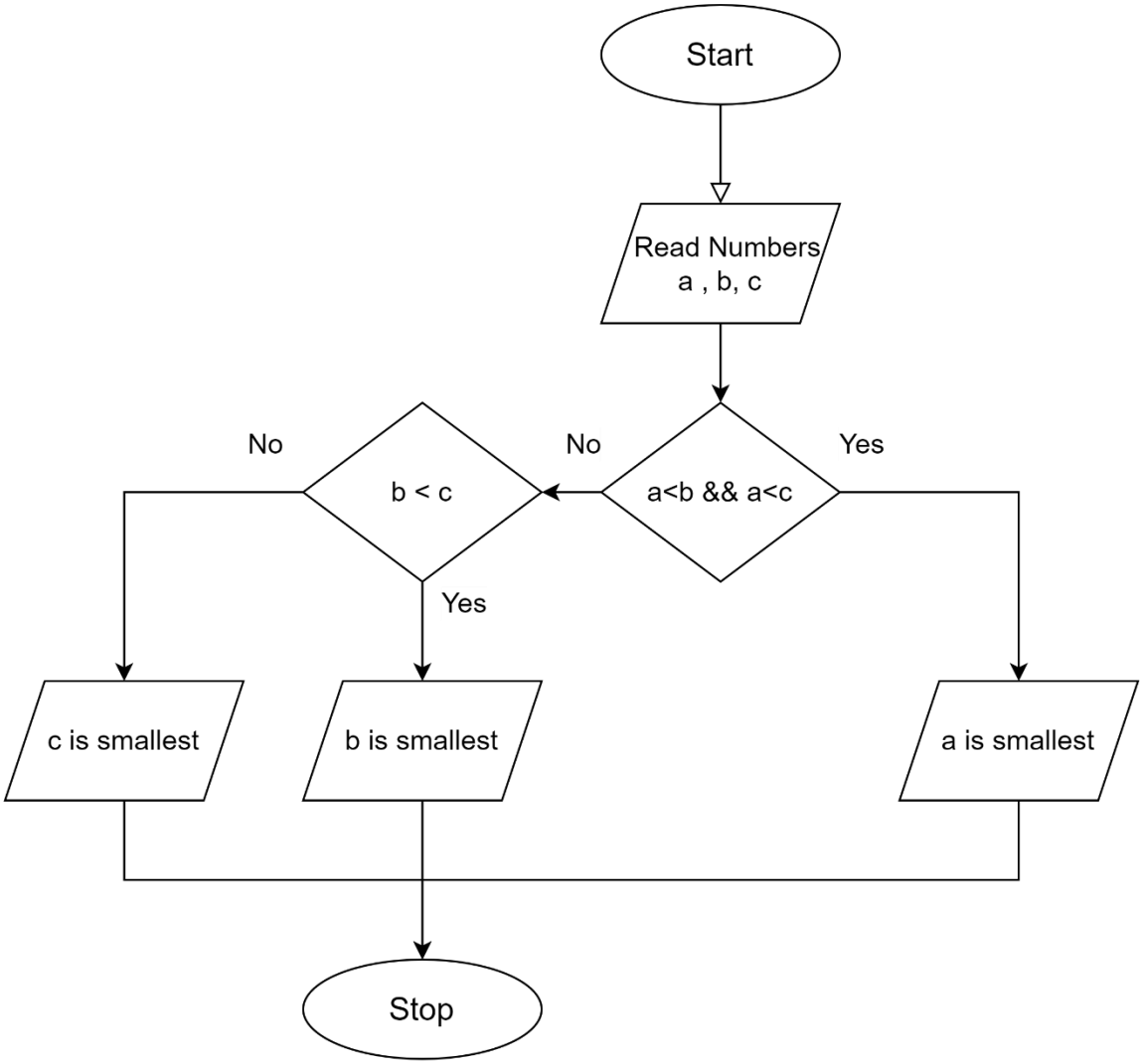
Step 3. If above condition is true, a is smallest and go to step 6, else go to step 4.

Step 4. Check if b is less than c.

Step 5. If above condition is true, b is the smallest, else c is the smallest.

Step 6. Stop.

Flow Chart:



Question 13-- Write Algorithm and draw Flow chart to reverse a given number.

Algorithm:

Step 1. Read a number n.

Step 2. Take rev=0 and a variable r.

Step 3. r = n % 10.

Step 4. n = n/10.

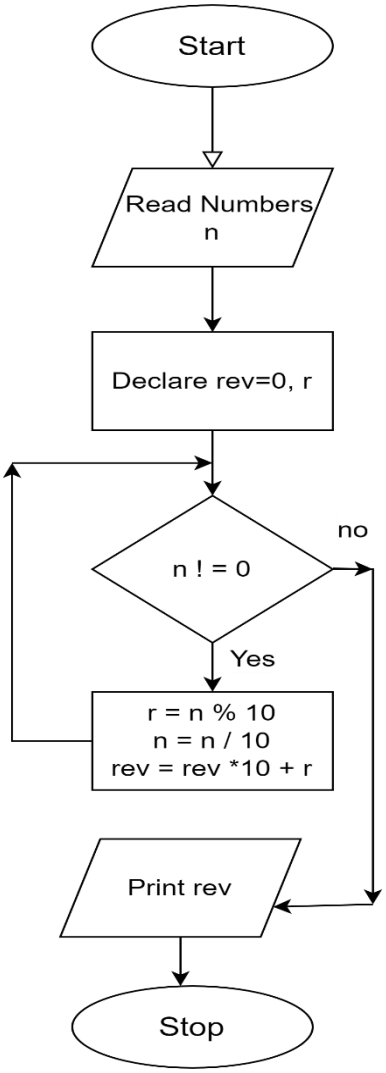
Step 5. rev = rev*10 + r.

Step 6. Repeat step 3,4 and 5, till n is not equals to zero.

Step 7. Print rev.

Step 8. Stop.

Flow Chart:



Question 14-- Write Algorithm and draw Flow chart to find GCD of two given numbers.

Algorithm:

Step 1. Read a number n.

Step 2. Take rev=0 and a variable r.

Step 3. r = n % 10.

Step 4. n = n/10.

Step 5. rev = rev*10 + r.

Step 6. Repeat step 3,4 and 5, till n is not equals to zero.

Step 7. Print rev.

Step 8. Stop.

Question 17-- Write Algorithm and draw Flow chart to check whether a given number is palindrome or NOT.

Algorithm:

Step 1. Read a number n.

Step 2. declare rev=0, copy= n, r

Step 3. r = n % 10.

Step 4. n = n/10.

Step 5. rev = rev*10 + r.

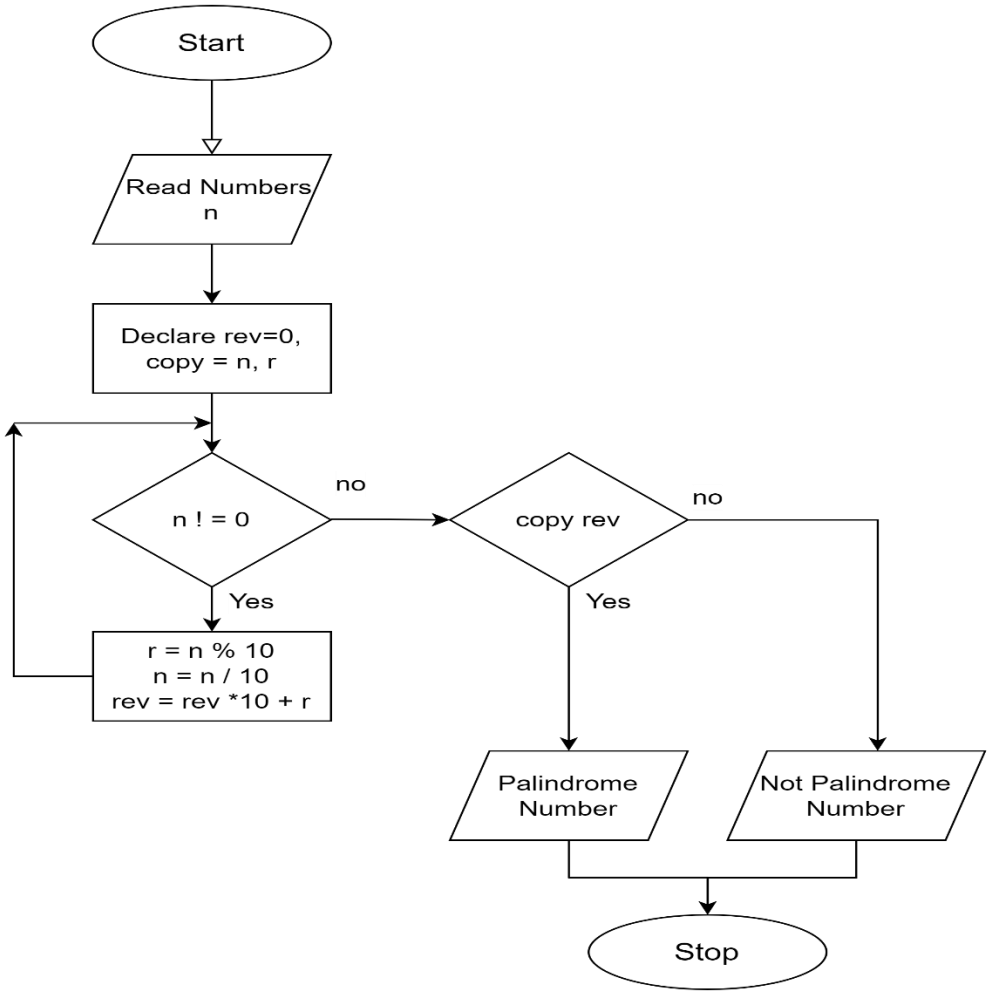
Step 6. Repeat step 3,4 and 5, till n is not equals to zero.

Step 7. If copy is equal to rev, then print number is palindrome.

Step 7. Else print not palindrome.

Step 8. Stop.

Flow Chart:



Question 19-- Write Algorithm and draw Flow chart to print the even number series 2, 4,6, 8, …….

Algorithm:

Step 1. Read number of terms of series, say n.

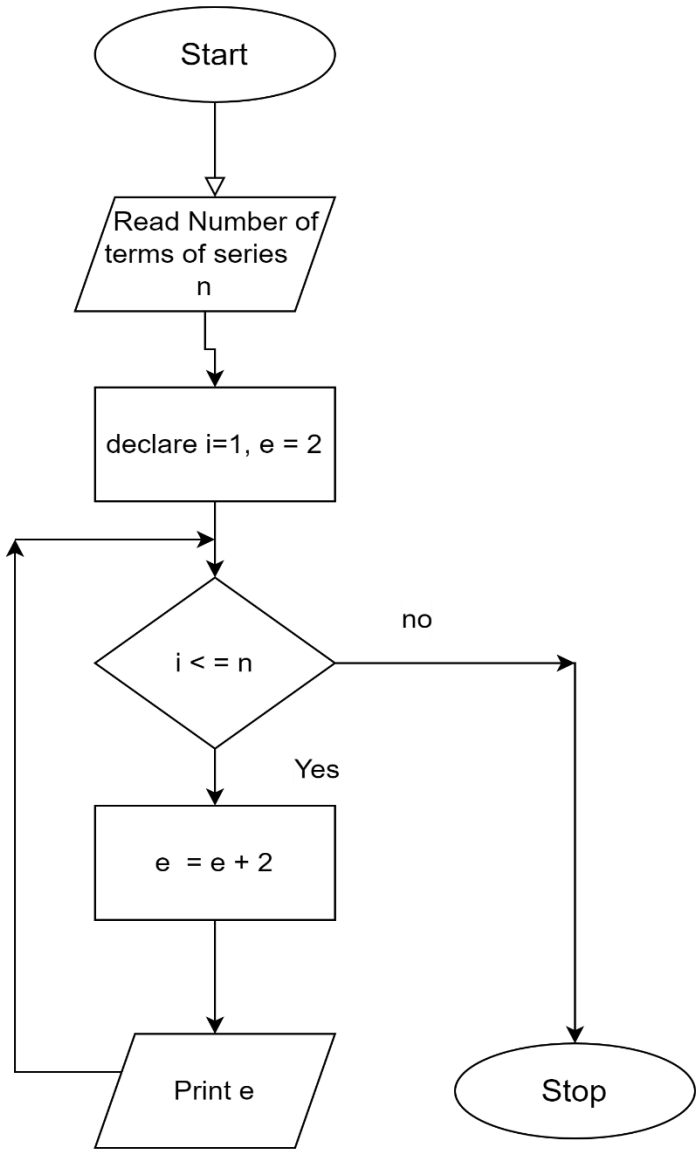
Step 2. Initialize e = 2, as first term of series and declare i = 1 for iteration.

Step 3. e = e +2 and print e.

Step 4. Repeat step 3, i <=n.

Step 5. Stop.

Flow Chart:



Question 20-- Write Algorithm and draw Flow chart to print the ODD number series 1, 3,5, 7, …….

Algorithm:

Step 1. Read number of terms of series, say n.

Step 2. Initialize e = 1, as first term of series and declare i = 1 for iteration.

Step 3. e = e +2 and print e.

Step 4. Repeat step 3, i<=n.

Step 5. Stop.

Flow Chart: