SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF INFORMATION TECHNOLOGY

PROGRAMMING FOR PROBLEM SOLVING

I YEAR - I SEM

UNIT 1 – Introduction to Problem Solving Techniques
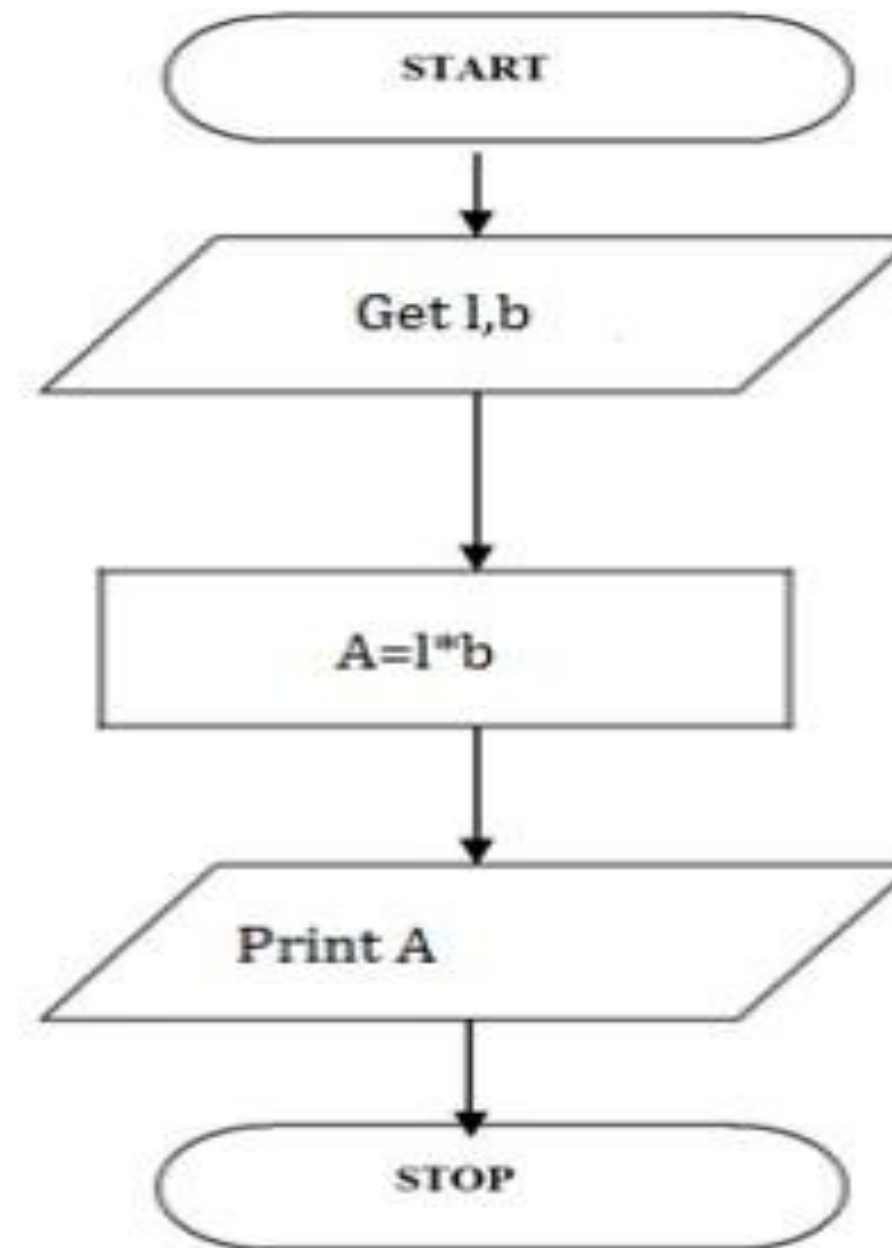
TOPIC 8 – Illustrative Examples

TO FIND AREA OF A RECTANGLE

- Step 1: Start
- Step 2: get l,b values
- Step 3: Calculate A=l*b
- Step 4: Display A
- Step 5: Stop
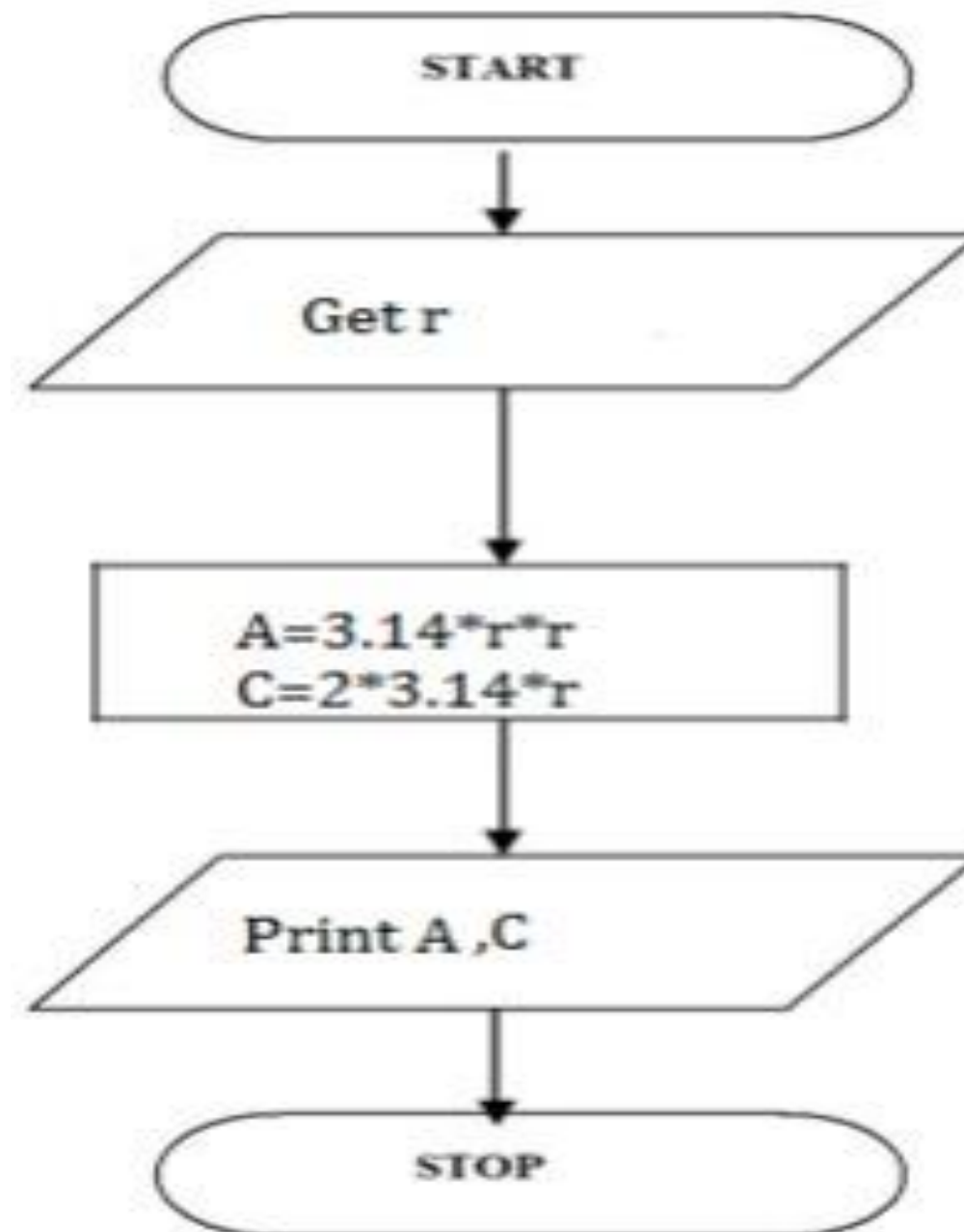
- BEGIN
- READ l,b
- CALCULATE A=l*b
- DISPLAY A
- END

CALCULATING AREA AND CIRCUMFERENCE OF CIRCLE

- Step 1: Start
- Step 2: get r value
- Step 3: Calculate A=3.14*r*r
- Step 4: Calculate C=2.3.14*r
- Step 5: Display A,C
- Step 6: Stop

- BEGIN
- READ r
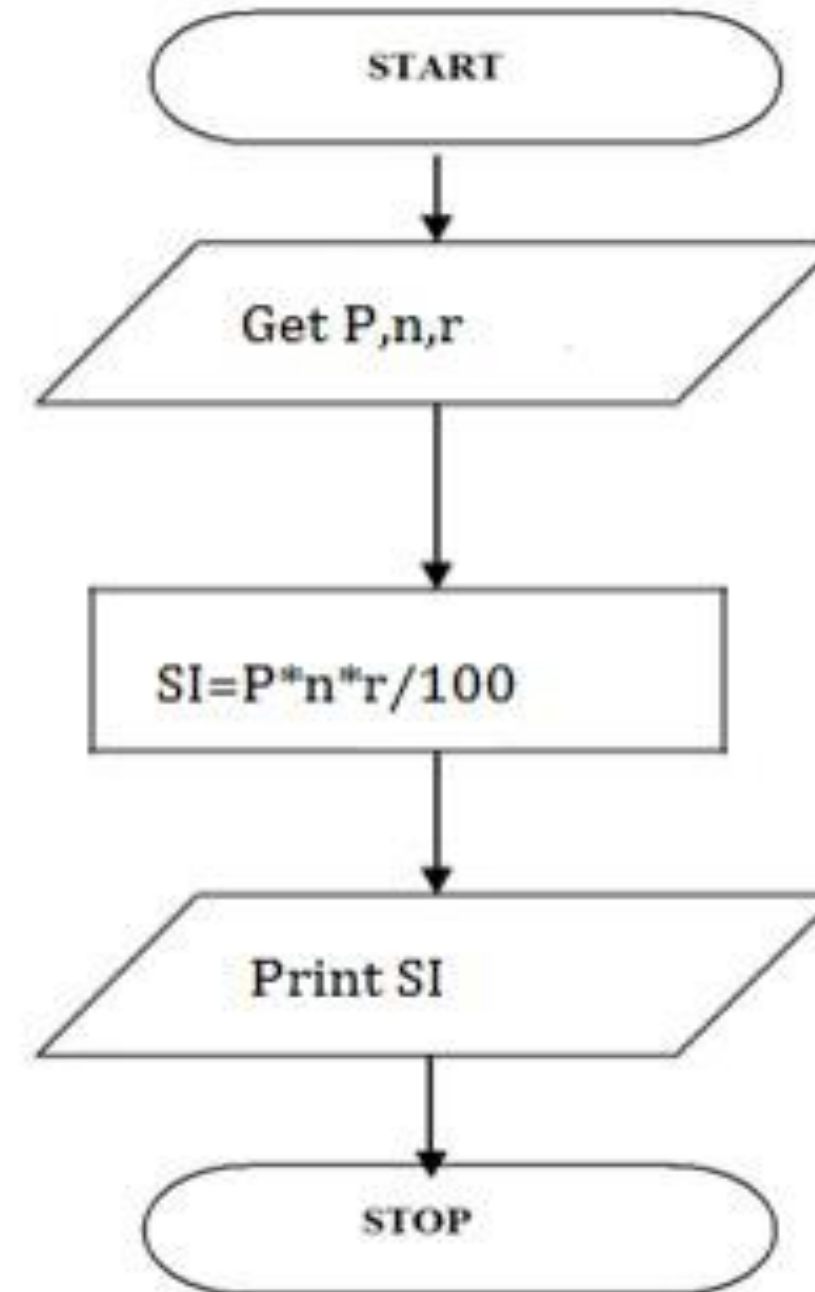- CALCULATE A and C
- A=3.14*r*r
- C=2*3.14*r
- DISPLAY A
- END

CALCULATING SIMPLE INTEREST

- Step 1: Start
- Step 2: get P, n, r value
- Step 3: Calculate SI=(p*n*r)/100
- Step 4: Display S
- Step 5: Stop

- BEGIN
- READ P, n, r
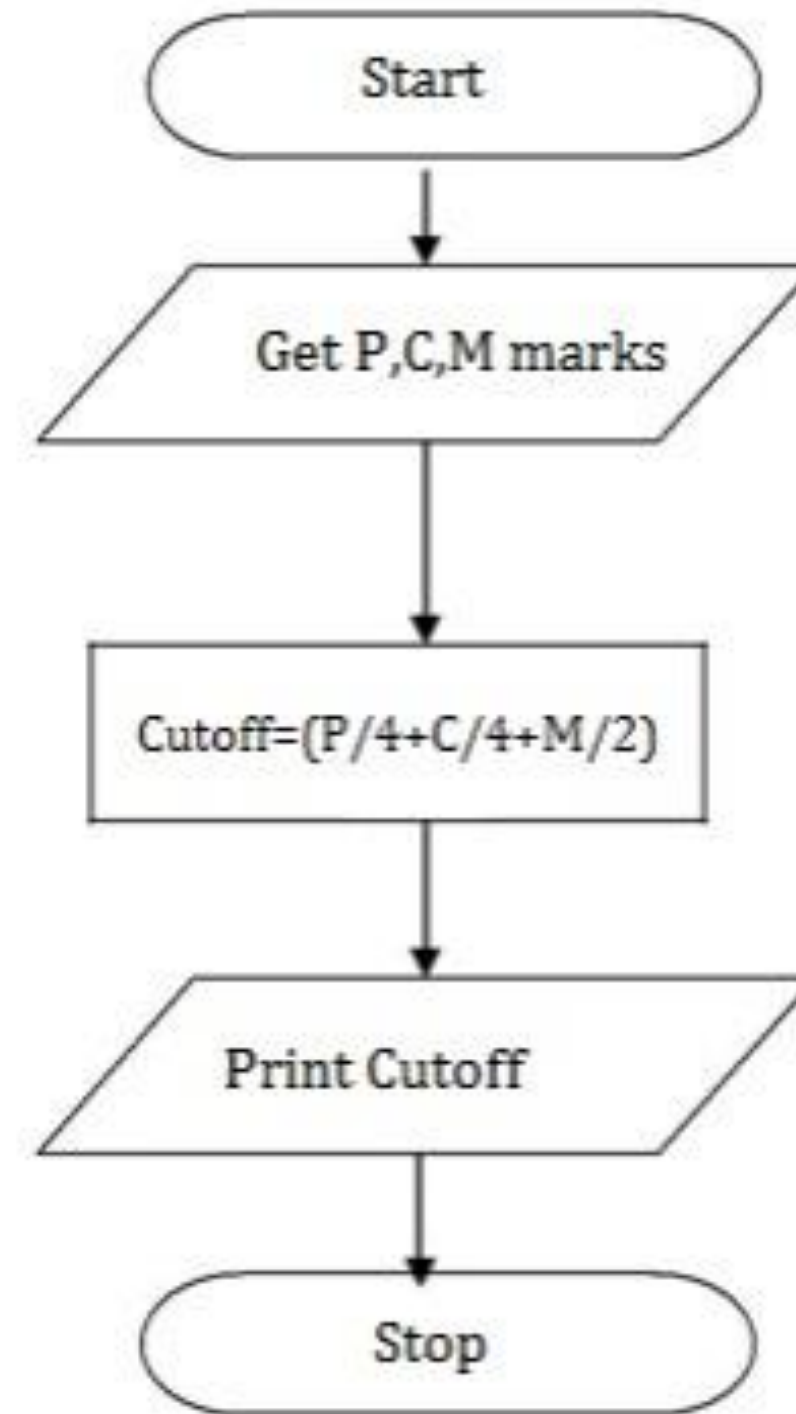- CALCULATE S
- SI=(p*n*r)/100
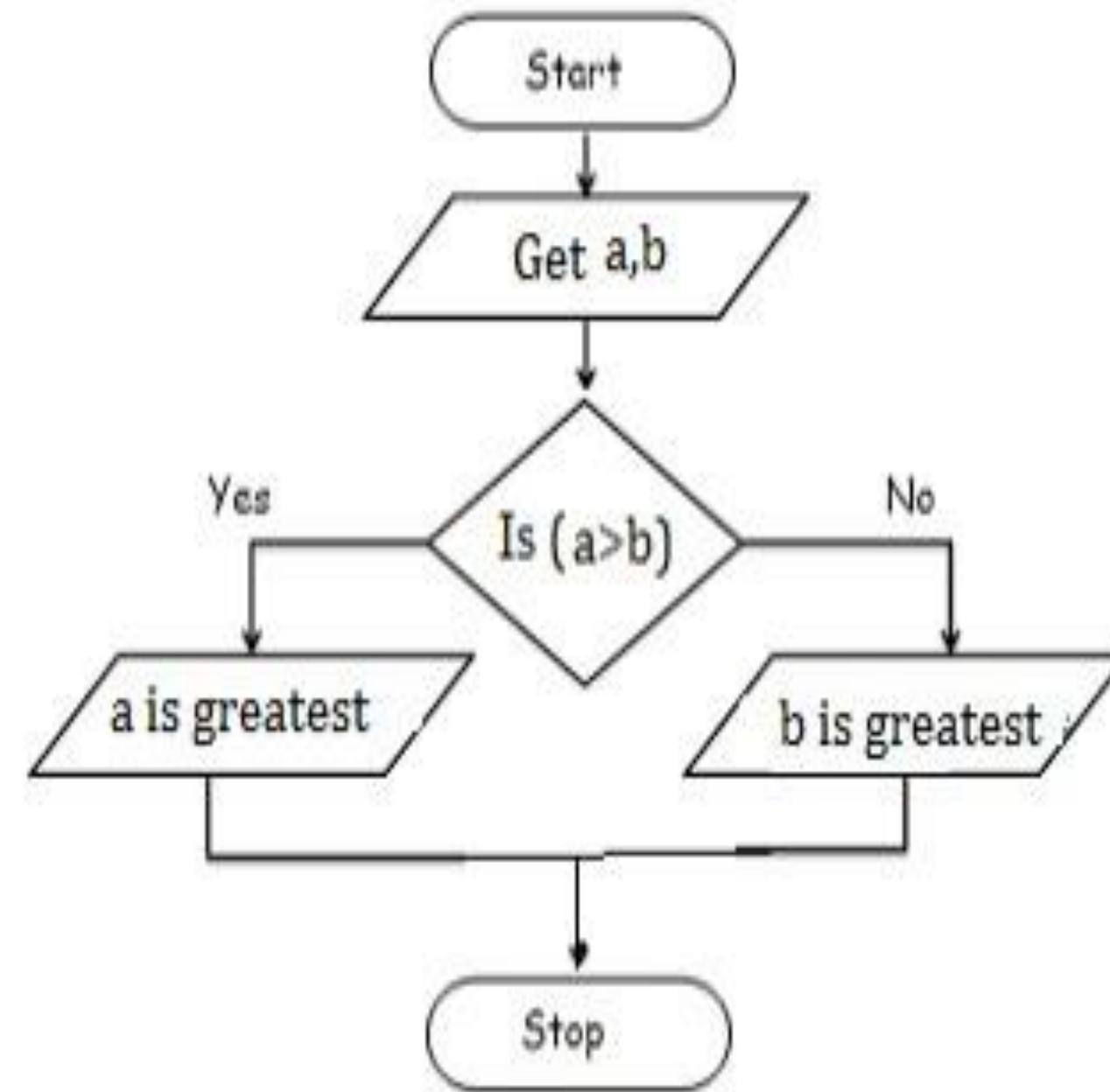- DISPLAY SI
- END

CALCULATING ENGINEERING CUTOFF

- Step 1: Start
- Step 2: get P,C,M value
- Step 3: calculate Cutoff= (P/4+C/4+M/2)
- Step 4: Display Cutoff
- Step 5: Stop

- BEGIN
- READ P,C,M
- CALCULATE
- Cutoff= (P/4+C/4+M/2)
- DISPLAY Cutoff
- END

TO CHECK GREATEST OF TWO NUMBERS

- Step 1: Start
- Step 2: get a,b value
- Step 3: check if(a>b) print a is greater
- Step 4: else b is greater
- Step 5: Stop

- BEGIN
- READ a,b
- IF (a>b) THEN
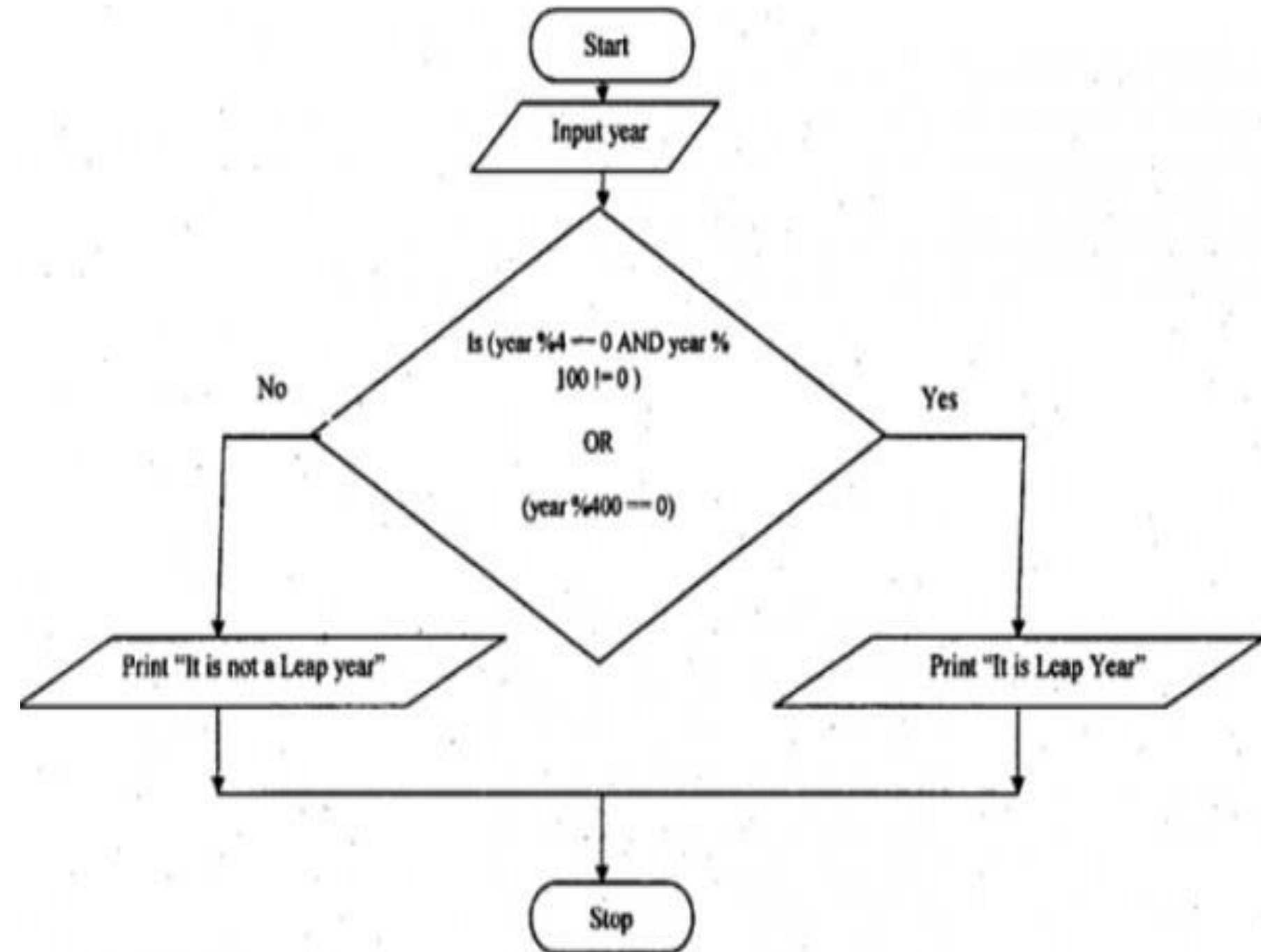- DISPLAY a is greater
- ELSE
- DISPLAY b is greater
- END IF
- END

TO CHECK LEAP YEAR OR NOT

➢ Step 1: Start
➢ Step 2: get y
➢ Step 3: if(y%4==0) print leap year
➢ Step 4: else print not leap year
➢ Step 5: Stop

➢ BEGIN
➢ READ y
➢ IF (y%4==0) THEN
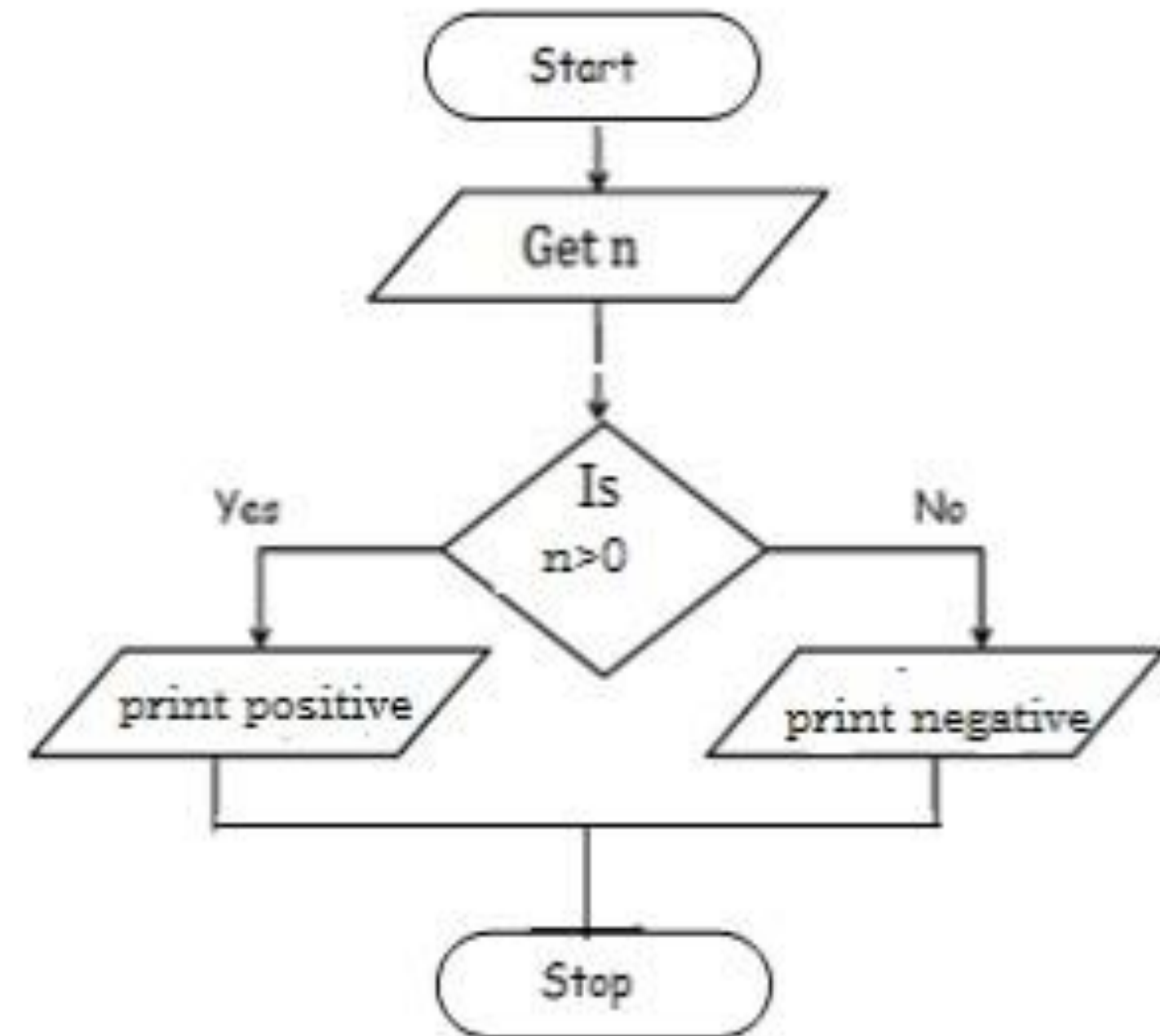➢ DISPLAY leap year
➢ ELSE
➢ DISPLAY not leap year
➢ END IF
➢ END

TO CHECK POSITIVE OR NEGATIVE NUMBER

- Step 1: Start
- Step 2: get num
- Step 3: check if(num>0) print a is positive
- Step 4: else num is negative
- Step 5: Stop

- BEGIN
- READ num
- IF (num>0) THEN
- DISPLAY num is positive
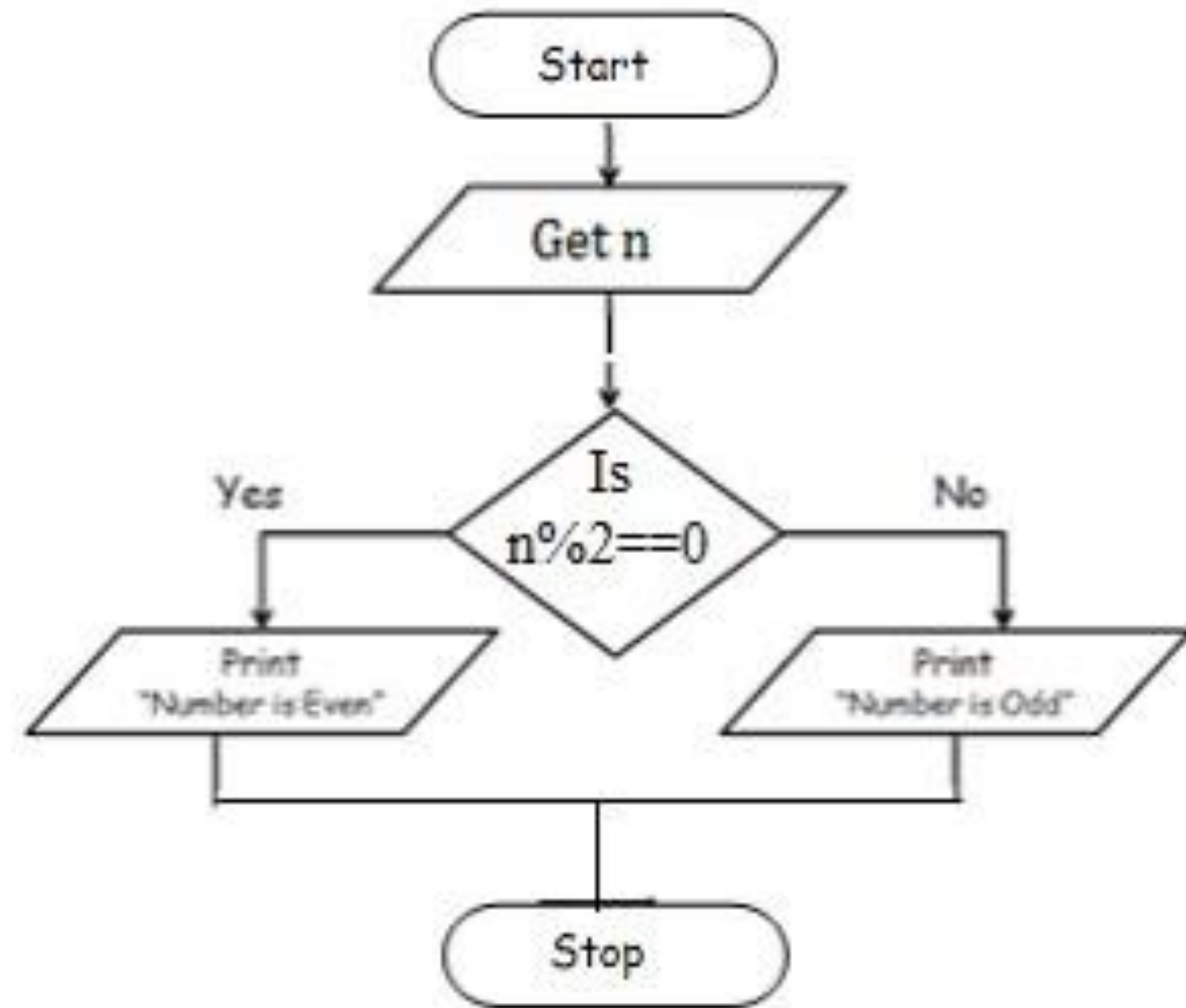- ELSE
- DISPLAY num is negative
- END IF
- END

TO CHECK ODD OR EVEN NUMBER

- Step 1: Start
- Step 2: get num
- Step 3: check if(num%2==0) print num is even
- Step 4: else num is odd
- Step 5: Stop

- BEGIN
- READ num
- IF (num%2==0) THEN
- DISPLAY num is even
- ELSE
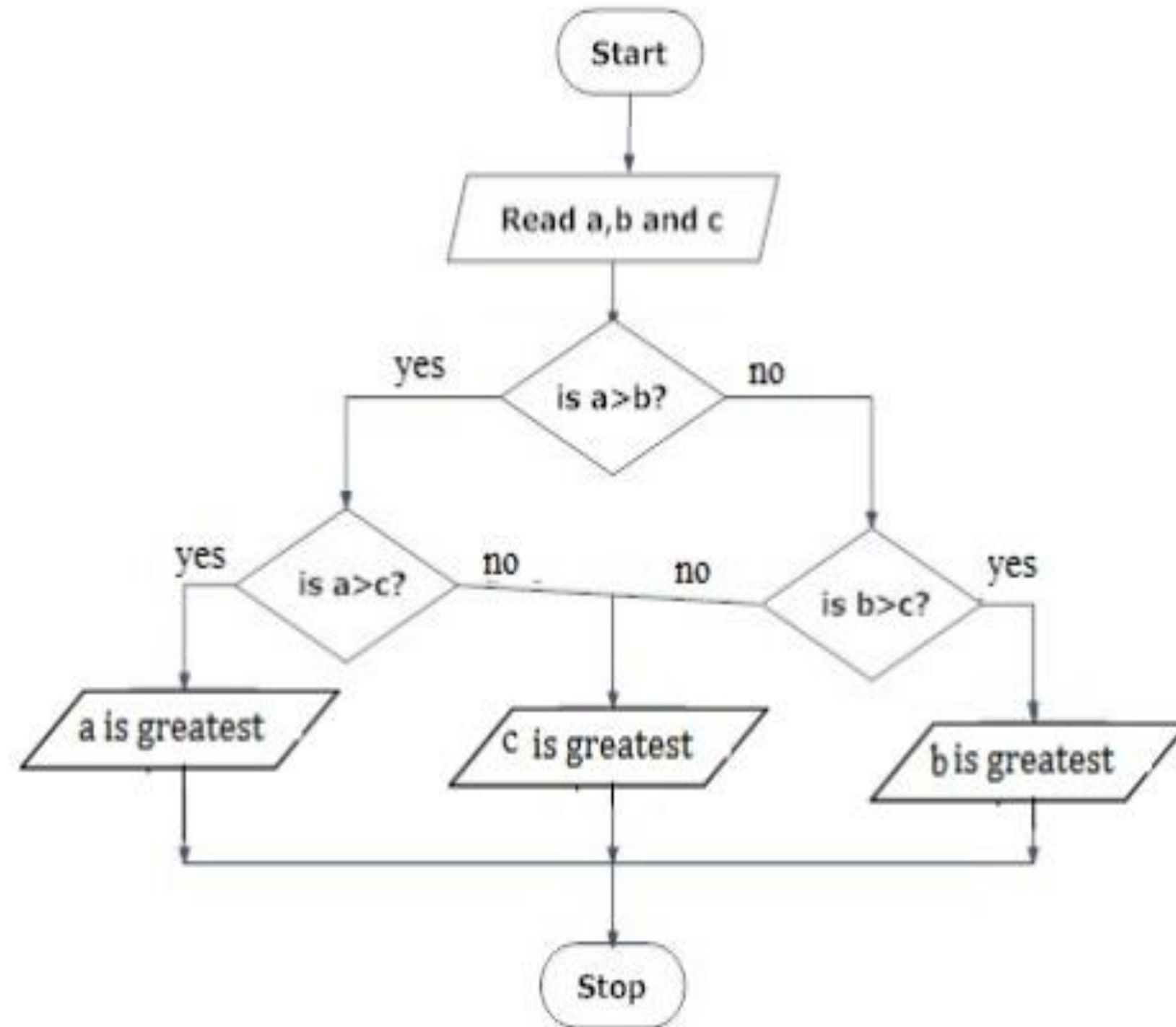- DISPLAY num is odd
- END IF
- END

TO CHECK GREATEST OF THREE NUMBERS

- Step 1: Start
- Step 2: Get A, B, C
- Step 3: if(A>B) goto Step4 else goto step5
- Step 4: If(A>C) print A else print C
- Step 5: If(B>C) print B else print C
- Step 6: Stop

- BEGIN
- READ a, b, c
-     IF (a>b) THEN
-     IF(a>c) THEN
-         DISPLAY a is greater
-      ELSE
-         DISPLAY c is greater
-     END IF
-     ELSE
-     IF(b>c) THEN
-         DISPLAY b is greater
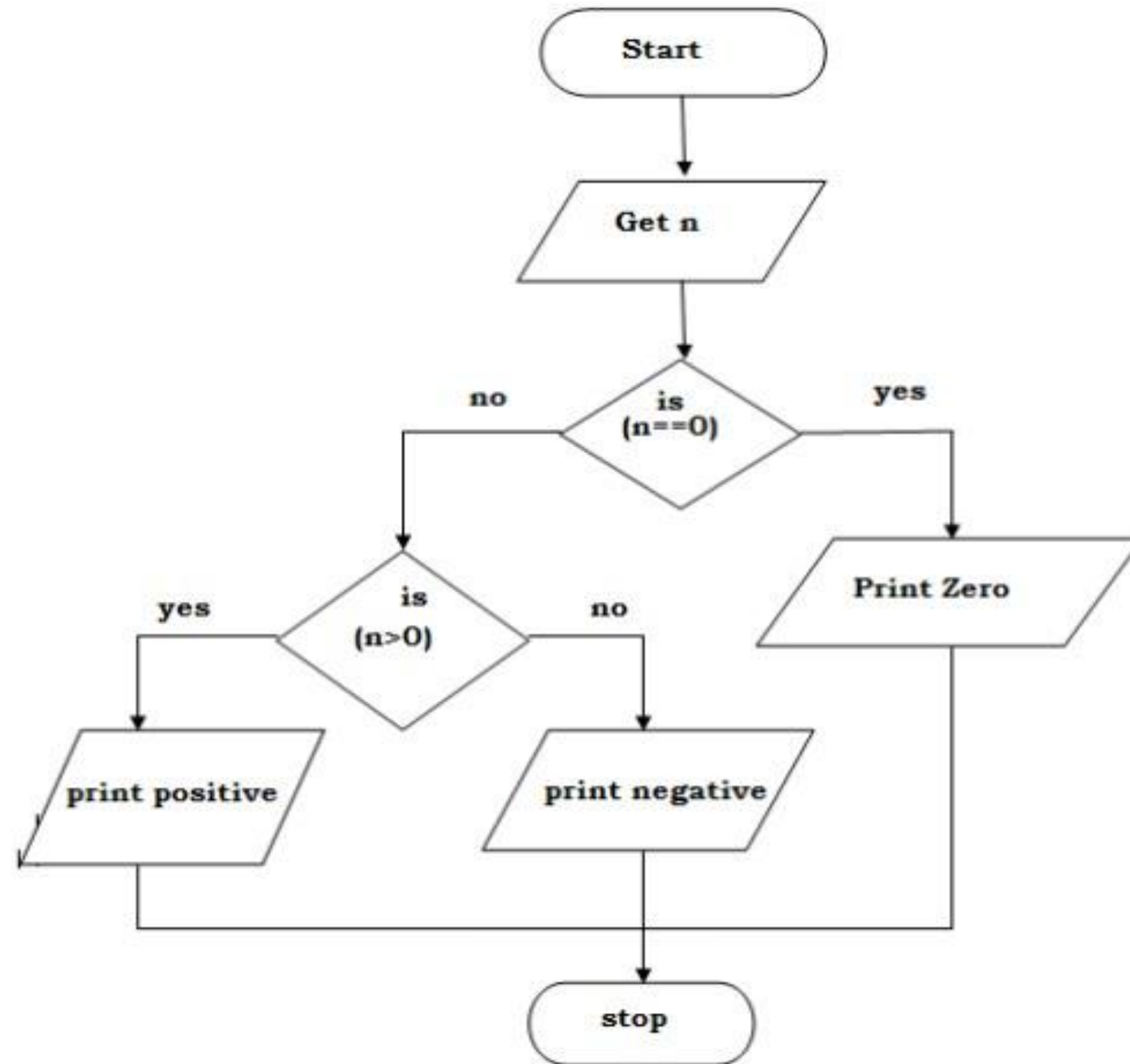-   ELSE
-         DISPLAY c is greater
-     END IF
- END

CHECK WHETHER GIVEN NUMBER IS +VE, -VE OR ZERO.

- Step 1: Start
- Step 2: Get n value.
- Step 3: if (n ==0) print "Given number is Zero"
  Else goto step4
- Step 4: if (n > 0) then Print "Given number is +ve"
- Step 5: else Print "Given number is -ve"
- Step 6: Stop

- BEGIN
- GET n
- IF(n==0) THEN
-         DISPLAY " n is zero"
- ELSE
-         IF(n>0) THEN
-          DISPLAY "n is positive"
- ELSE
-         DISPLAY "n is positive"
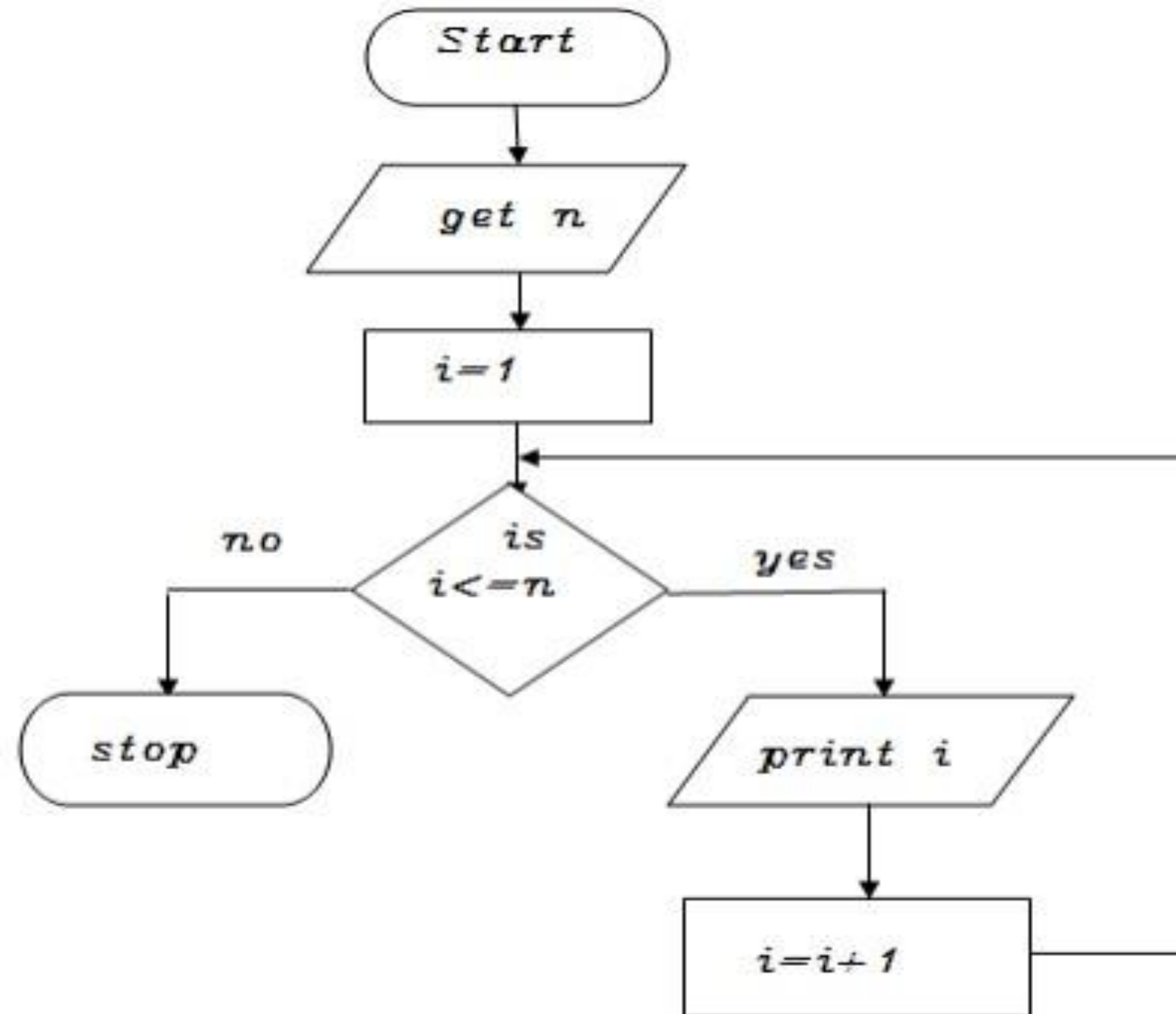- END IF
- END IF
- END

TO PRINT N ODD NUMBERS

- Step 1: start
- step 2: get n value
- step 3: set initial value i=1
- step 4: check if(i<=n) goto step 5 else goto step 8
- step 5: print i value
- step 6: increment i value by 2
- step 7: goto step 4
- step 8: stop

- BEGIN
- GET n
- INITIALIZE i=1
- WHILE(i<=n) DO
-         PRINT i
-         i=i+2
- ENDWHILE
- END

TO PRINT SQUARES OF A NUMBER

- step 1: start
- step 2: get n value
- step 3: set initial value i=1
- step 4: check i value if(i<=n) goto step 5 else goto step8
- step 5: print i*i value
- step 6: increment i value by 1
- step 7: goto step 4
- step 8: stop

- BEGIN
- GET n
- INITIALIZE i=1
- WHILE(i<=n) DO
-          PRINT i*i
-          i=i+2
- ENDWHILE
- END