SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

DEPARTMENT OF INFORMATION TECHNOLOGY

PROBLEM SOLVING AND C PROGRAMMING

I YEAR - I SEM

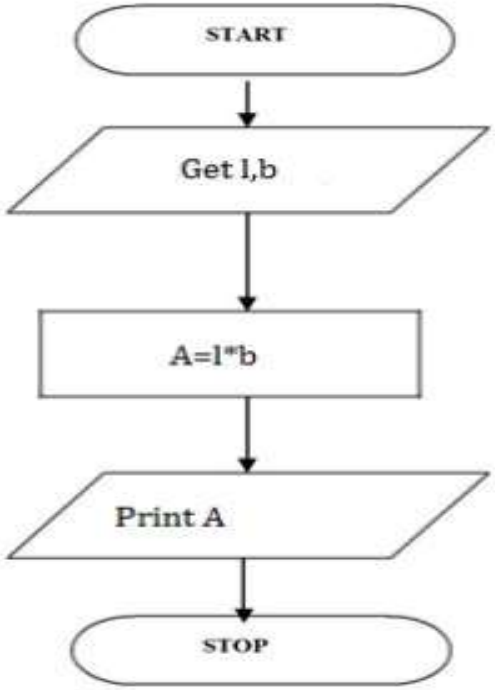
UNIT 1 – Introduction to Problem Solving Techniques

TOPIC 8 – Illustrative Examples

TO FIND AREA OF A RECTANGLE

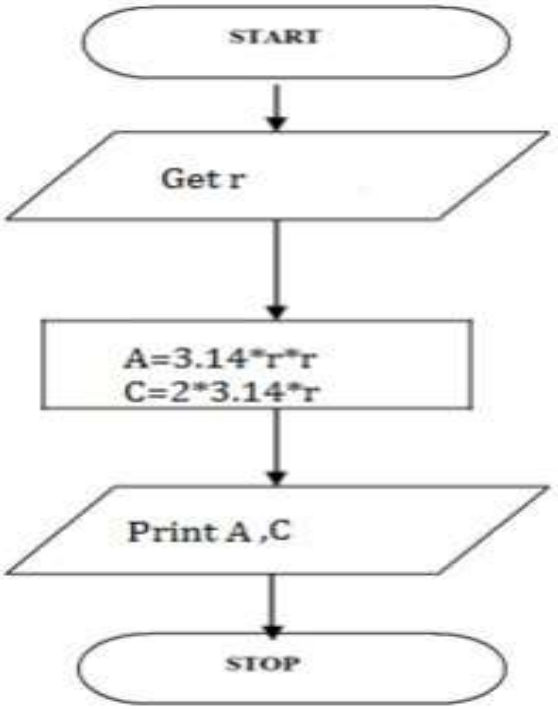
- Step 1: Start
- Step 2: get l,b values
- Step 3: Calculate A=l*b
- Step 4: Display A
- Step 5: Stop

- 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

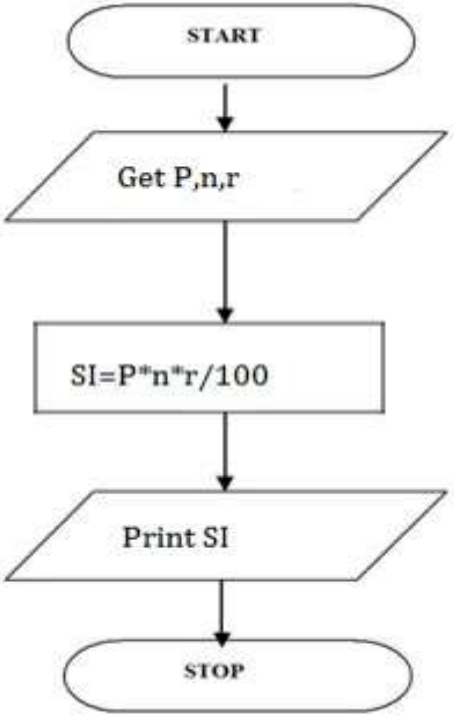


- BEGIN
- READ r
- CALCULATE A and C
- A=3.14*r*r
- C=2*3.14*r
- DISPLAY A
- END

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

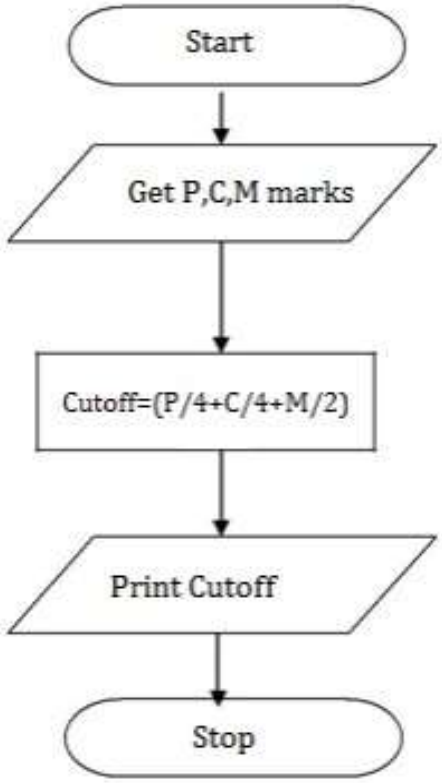
- BEGIN
- READ P, n, r
- CALCULATE S
- SI=(p*n*r)/100
- DISPLAY SI
- END



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

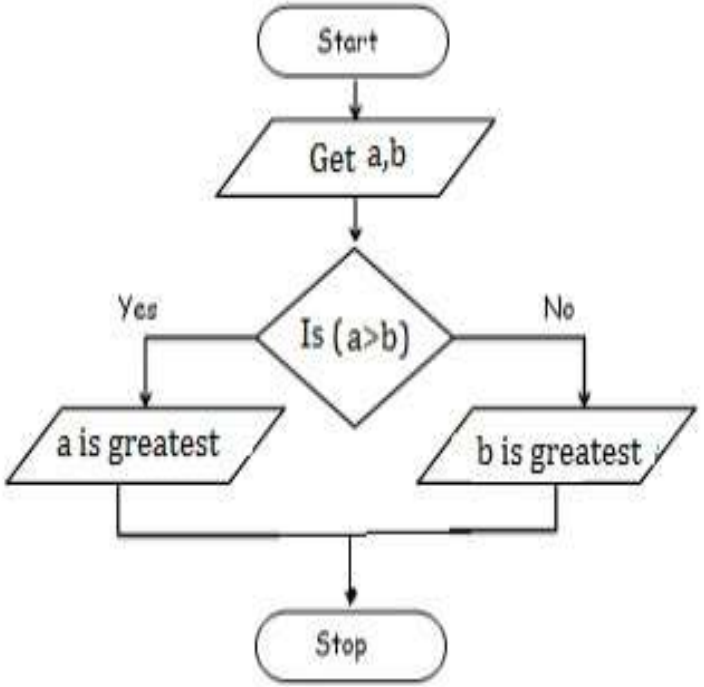
- BEGIN
- READ P,C,M
- CALCULATE
- Cutoff= (P/4+C/4+M/2)
- DISPLAY Cutoff
- END



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

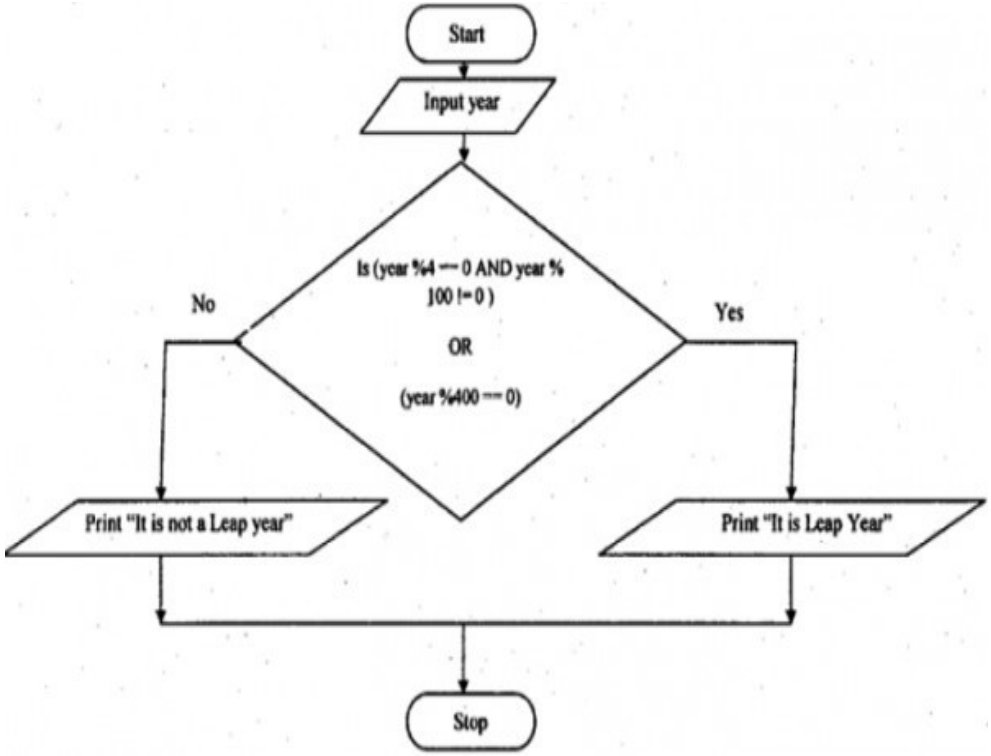
- BEGIN
- READ a,b
- IF (a>b) THEN
- DISPLAY a is greater
- ELSE
- DISPLAY b is greater
- END IF
- END



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

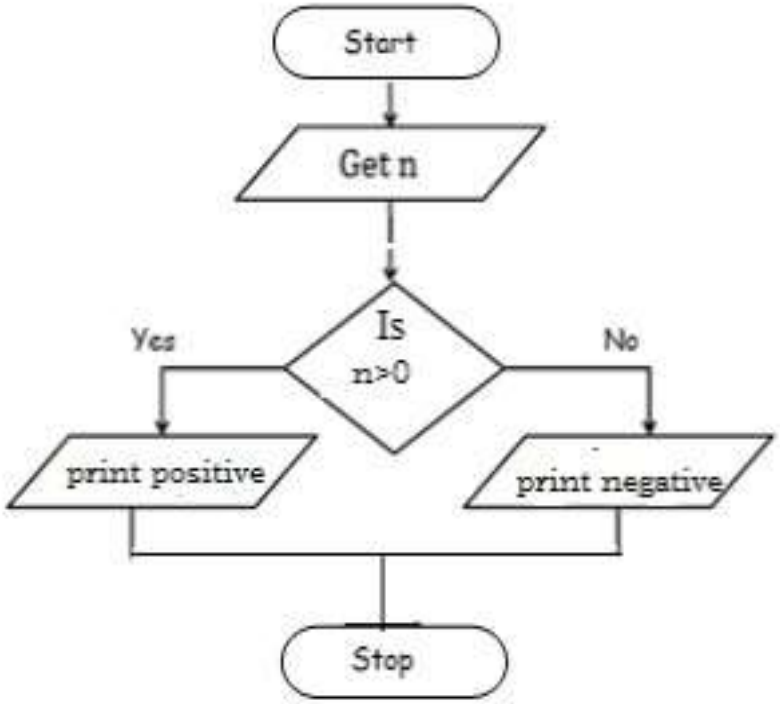
- BEGIN
- READ y
- IF (y%4==0) THEN
- DISPLAY leap year
- ELSE
- DISPLAY not leap year
- END IF
- END



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

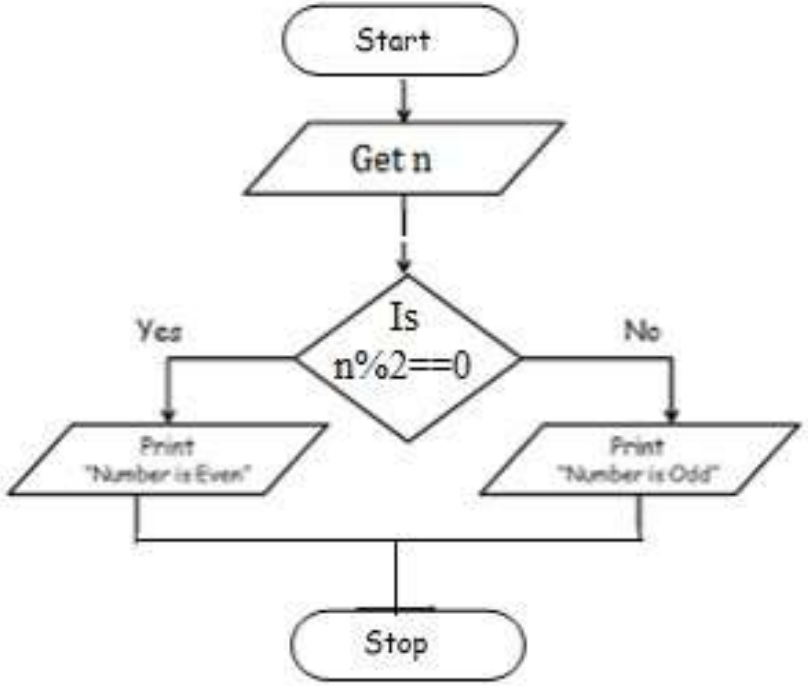
- BEGIN
- READ num
- IF (num>0) THEN
- DISPLAY num is positive
- ELSE
- DISPLAY num is negative
- END IF
- END



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

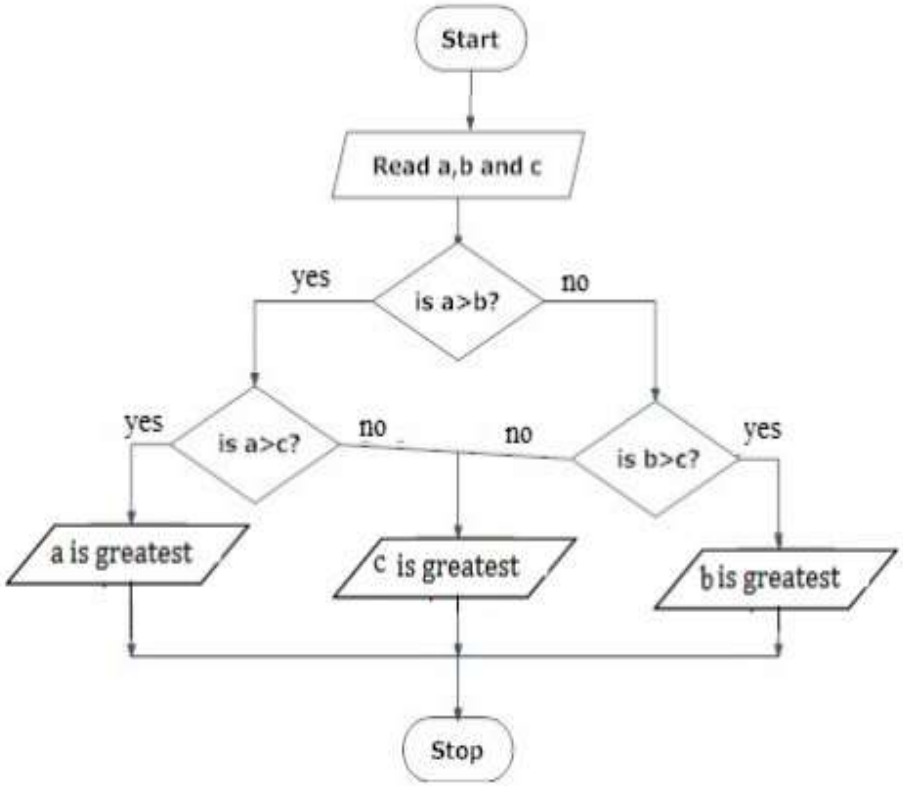
- BEGIN
- READ num
- IF (num%2==0) THEN
- DISPLAY num is even
- ELSE
- DISPLAY num is odd
- END IF
- END



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

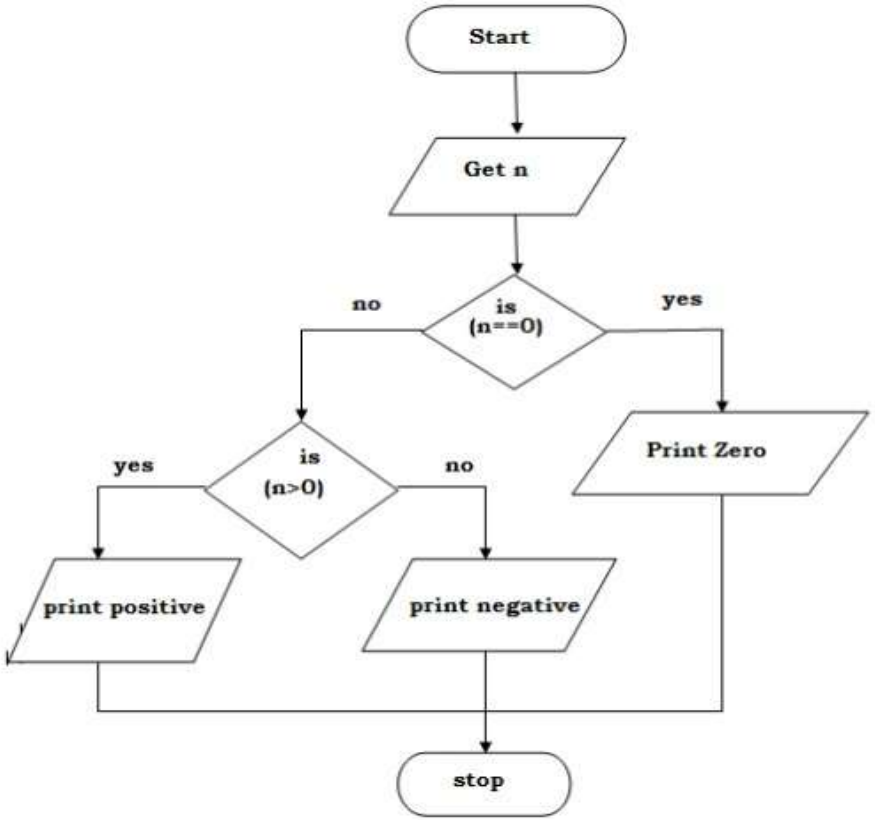
- BEGIN
- READ a, b, c
- IF (a>b) THEN
- IF(a>c) THEN
- DISPLAY a is greater
- ELSE
- DISPLAY c is greater
- END IF
- ELSE
- IF(b>c) THEN
- DISPLAY b is greater
- ELSE
- DISPLAY c is greater
- END IF
- END



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

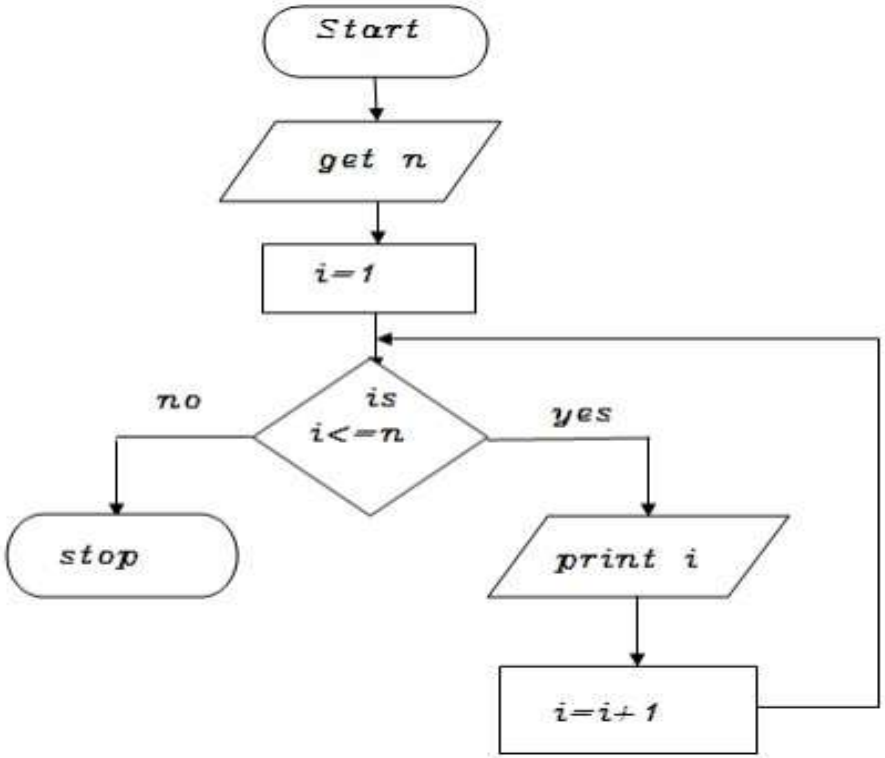
- BEGIN
- GET n
- IF(n==0) THEN
- DISPLAY “ n is zero”
- ELSE
- IF(n>0) THEN
- DISPLAY “n is positive”
- ELSE
- DISPLAY “n is positive”
- END IF
- END IF
- END



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