

Examples for Algorithm, Pseudocode, Flowchart

Example: Finding the area of a circle

Algorithm

Step1: Start

Step2: Read the value of r

Step3: Calculate area = $3.14 * r * r$

Step4: Print area

Step5: Stop

Pseudocode

Set area

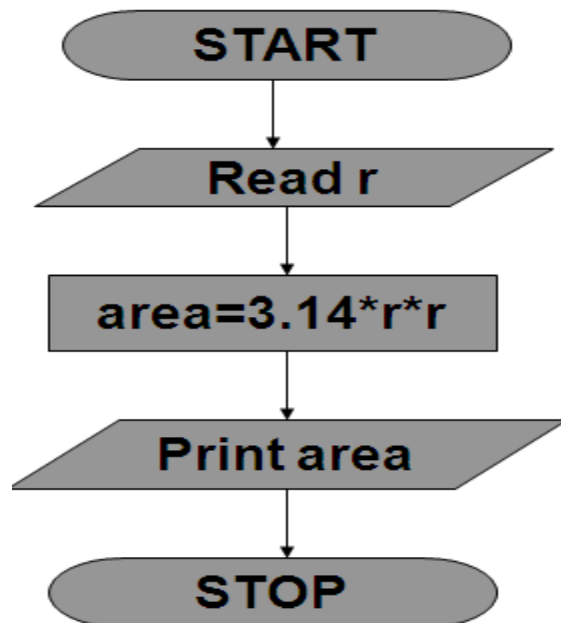
READ the r

COMPUTE $\text{area} = 3.14 * r * r$

PRINT area

stop

Flowchart



Find the largest among three Numbers

Algorithm

Step1: Start

Step2: Read the value of a, b, c

Step3: IF (a>b) and (a>c) THEN
 print a is largest
 ELSE IF (b>c) THEN
 print b is largest
 ELSE
 print c is largest

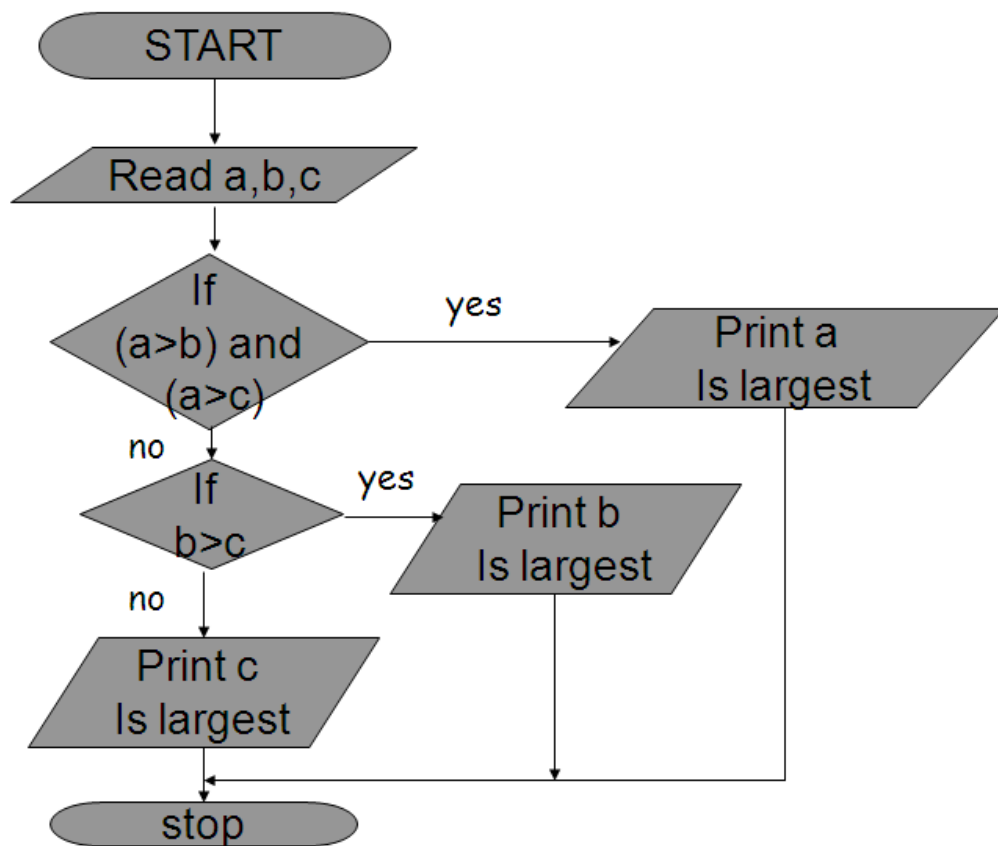
Step4: Stop

Pseudocode

```

READ a, b, c
IF (a>b) and (a>c) THEN
    WRITE a is largest
ELSE IF (b>c) THEN
    WRITE b is largest
ELSE
    WRITE c is largest
ENDIF
stop
  
```

Flowchart



Finding roots of the Quadratic equation

Step:1 Start

Step:2 Enter the values of a,b,c

Step:3 Find the value of D Using the Formula,

$$D = b^2 - 4ac$$

Step:4 If D is greater than or equal to zero find 2 roots

$$\text{root1} \leftarrow \frac{-b + \sqrt{D}}{2a}$$

$$\text{root2} \leftarrow \frac{-b - \sqrt{D}}{2a}$$

Step:5 Print root1 & root2

Step:6 If D is less than zero, then print the roots are imaginary

Step:7 Stop

Pseudocode

Set root1,root2

READ the value of a, b, c

Find $D \leftarrow b^2 - 4ac$

IF $D \geq 0$ THEN

 calculate $\text{root1} = \frac{-b + \sqrt{D}}{2a}$

$\text{root2} = \frac{-b - \sqrt{D}}{2a}$

ELSE

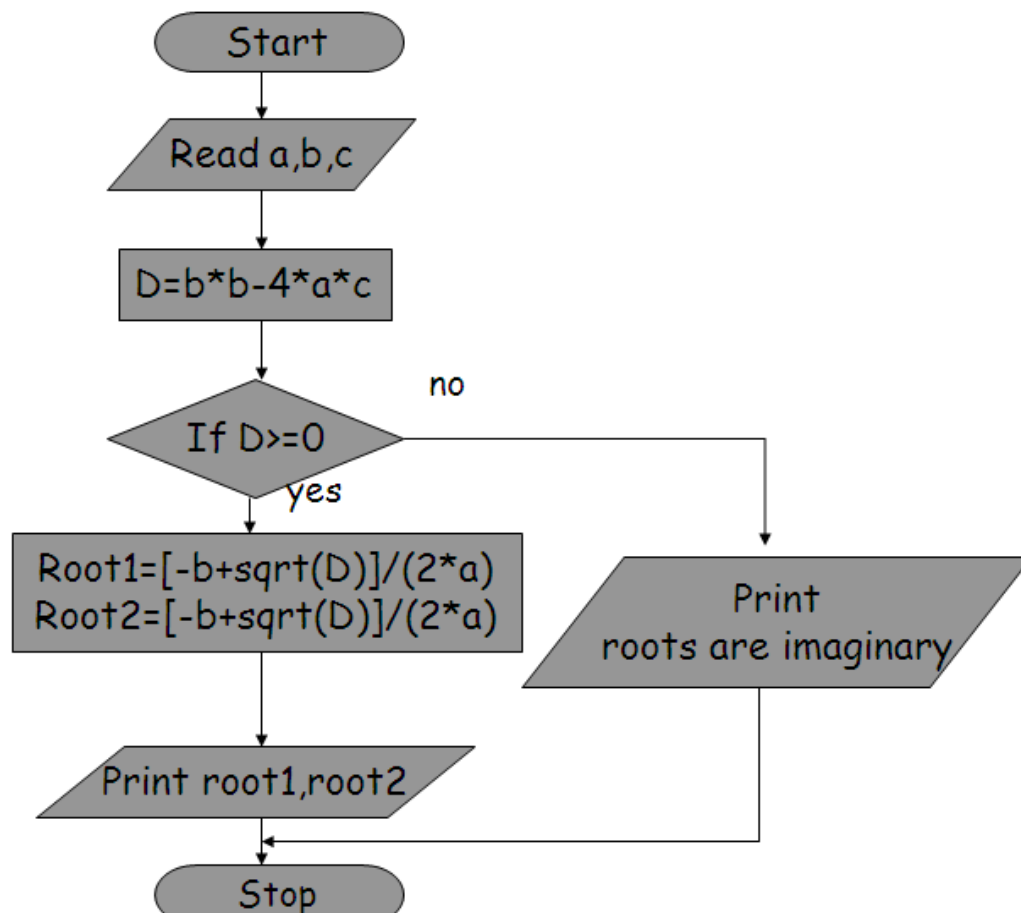
 Roots are imaginary

END IF

WRITE root1,root2

Stop

Flow chart



Swapping two variables

Algorithm

Step1: Start

Step2: Read the value of a, b

Step3: c = a

a = b

b = c

Step4: Print the value of a and b

Step5: Stop

Pseudocode

READ the value of a, b

To swap use

c = a

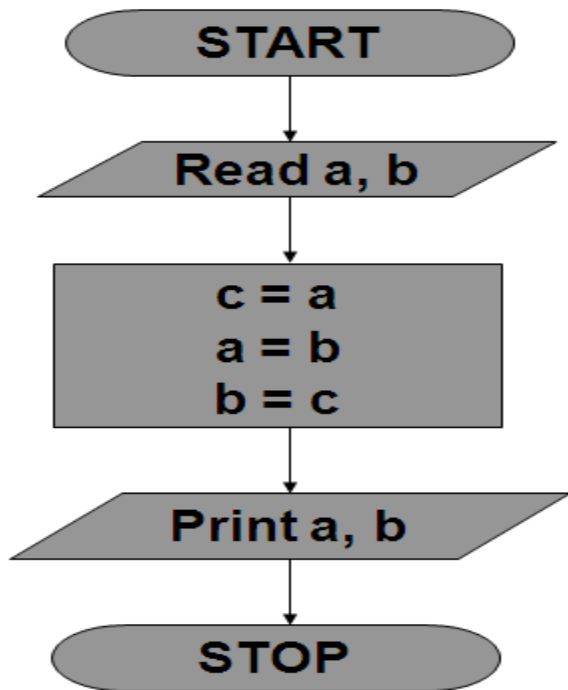
a = b

b = c

WRITE a, b

stop

Flowchart



Swapping two variables without using another variable

Algorithm

Step1: Start

Step2: Read the value of a, b

Step3: $a = a + b$

$b = a - b$

$a = a - b$

Step4: Print the value of a and b

Step5: Stop

Pseudocode

READ the value of a, b

To swap use

$a = a + b$

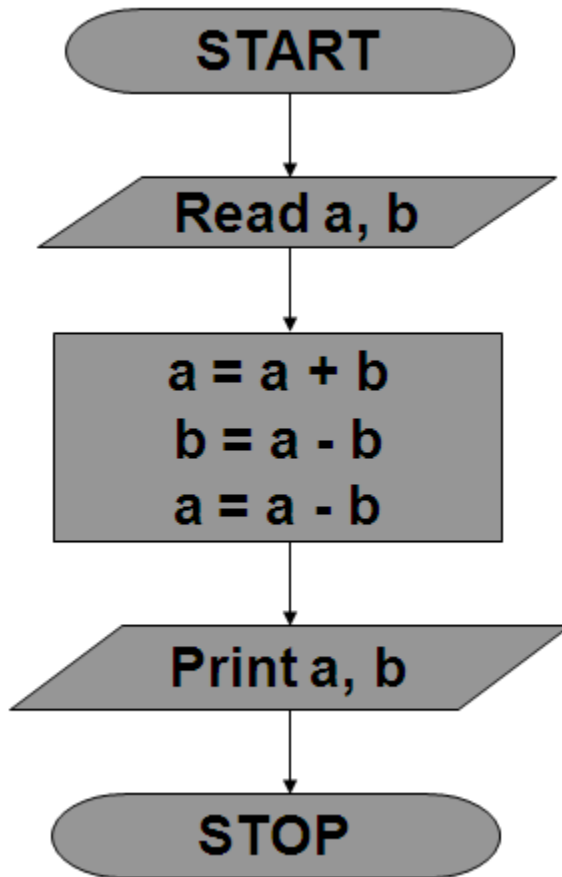
$b = a - b$

$a = a - b$

WRITE a, b

stop

Flowchart



Finding the year is leap year or not

Algorithm

Step1: Start

Step2: Read the value of year

Step3: IF year % 4 == 0 THEN

 print It is a Leap year

ELSE

 print It is not a Leap year

Step4: Stop

Pseudocode

READ year

IF year % 4 == 0 THEN

 WRITE It is a Leap year

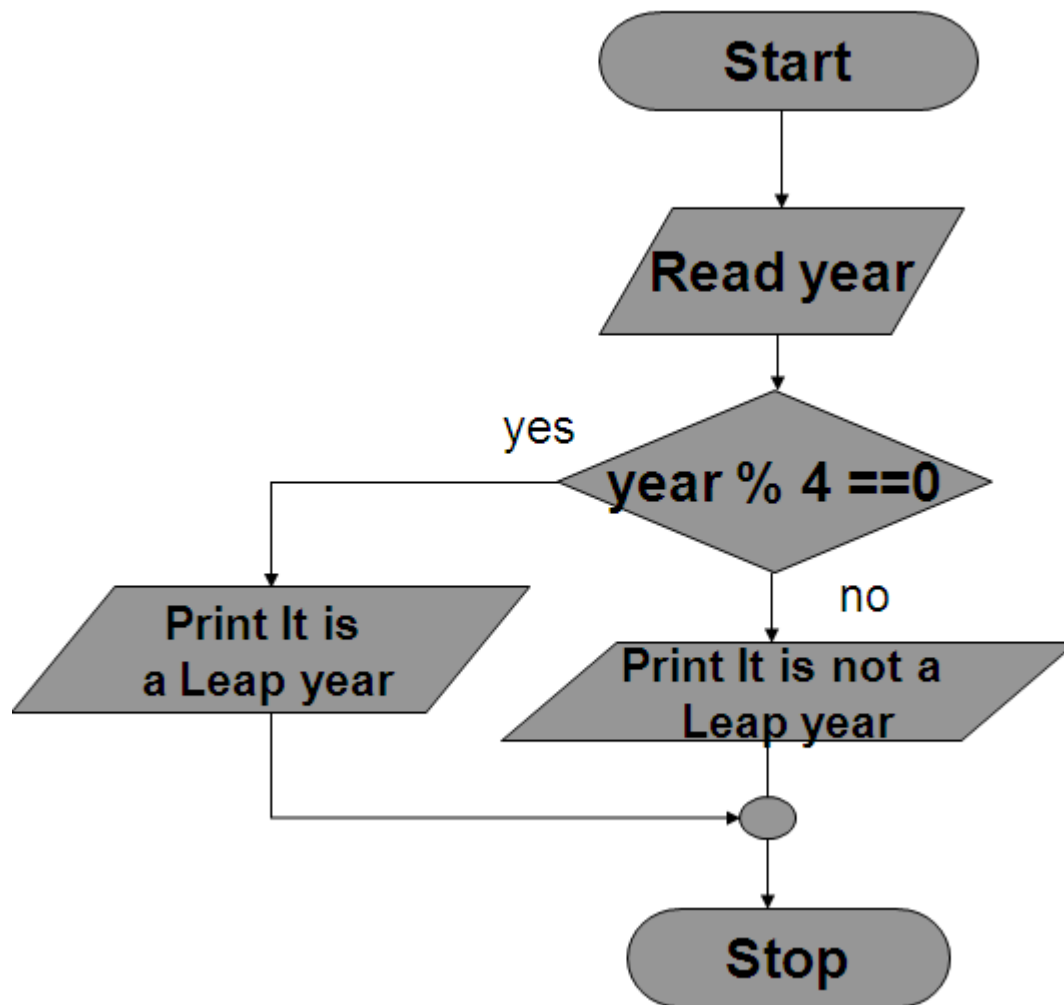
ELSE

 WRITE It is not a Leap year

ENDIF

stop

Flowchart



Finding the Factorial

Algorithm

Step1: Start

Step2: Read the value of n and set i =1

Step3: While i <= n do

fact =fact * i

i = i + 1

else Goto step5

Step4: Goto step 3

Step5: print the value of fact

Step6: Stop

Pseudocode

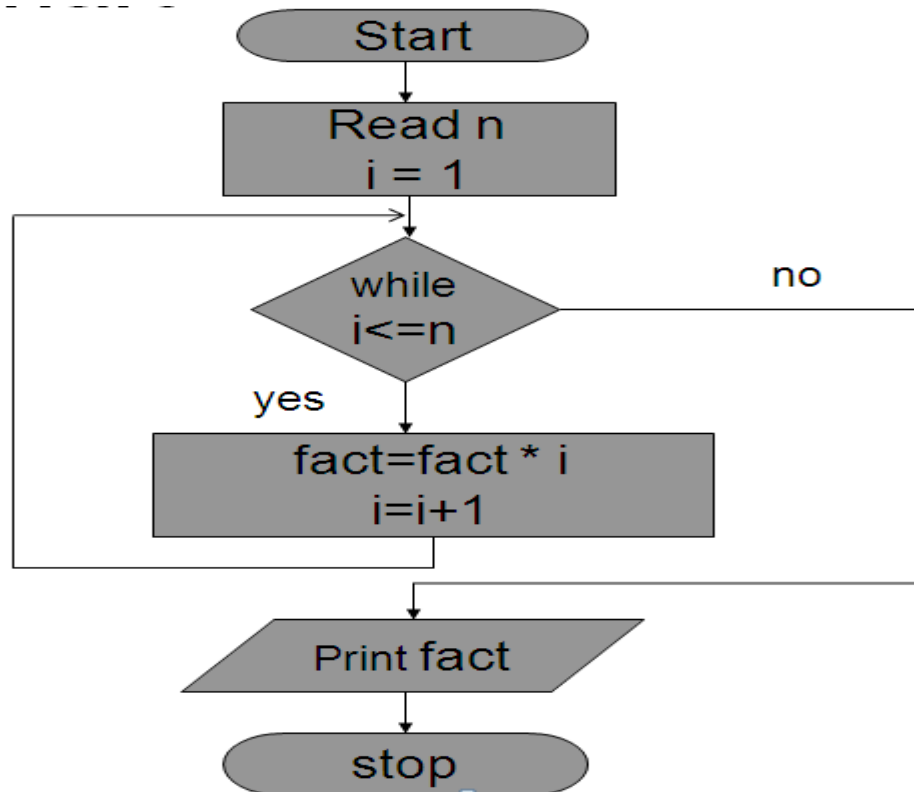
READ the value of n and set i =1

```

WHILE (i <= n) do
    fact =fact * i
    i = i + 1
ENDWHILE
Repeat the loop until condition fails
WRITE fact
stop

```

Flowchart



Finding the Sum of the digits

Algorithm

Step1: Start

Step2: Read the value of n and set $i = 0$, $sum = 0$

Step3: While $n > 0$ do

$r = n \% 10$

$sum = sum + r$

$n = n / 10$

else Goto step5

Step4: Goto step 3

Step5: print the value of sum

Step6: Stop

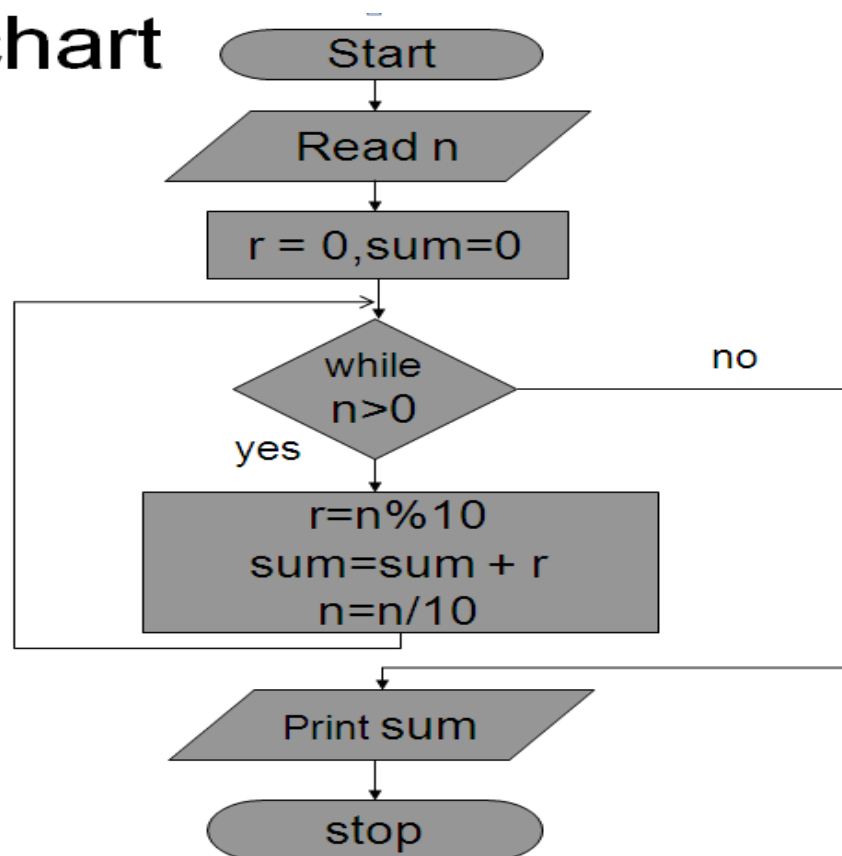
Pseudocode


```

READ the value of n and set i =0, sum=0
WHILE (n>0) do
    r=n%10
    sum=sum + r
    n=n/10
ENDWHILE
Repeat the loop until condition fails
WRITE sum
stop

```

Flowchart



Finding the Sum of the digits

Algorithm

Step1: Start

Step2: Read the value of n and set i = 0, sum = 0

Step3: While n>0 do

r=n%10

sum=sum + r

n=n/10

else Goto step5

Step4: Goto step 3

Step5: print the value of sum

Step6: Stop

Pseudocode

READ the value of n and set i =0, sum=0

WHILE (n>0) do

r=n%10

sum=sum + r

n=n/10

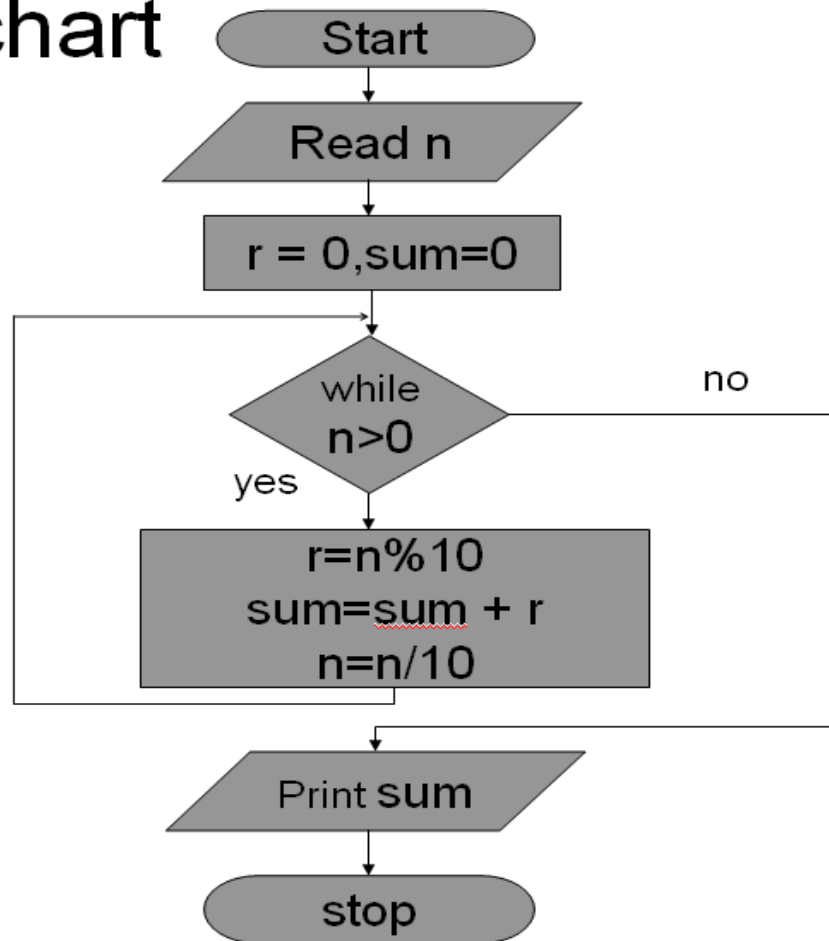
ENDWHILE

Repeat the loop until condition fails

WRITE sum

Stop

Flowchart



Finding the Reverse of a Number

Algorithm

Step1: Start

Step2: Read the value of n and set $i = 0$, $sum = 0$

Step3: While $n > 0$ do

$r = n \% 10$

$sum = sum * 10 + r$

$n = n / 10$

else Goto step5

Step4: Goto step 3

Step5: print the value of sum

Step6: Stop

Pseudocode

READ the value of n and set i =0, sum=0

WHILE (n>0) do

$r = n \% 10$

$sum = sum * 10 + r$

$n = n / 10$

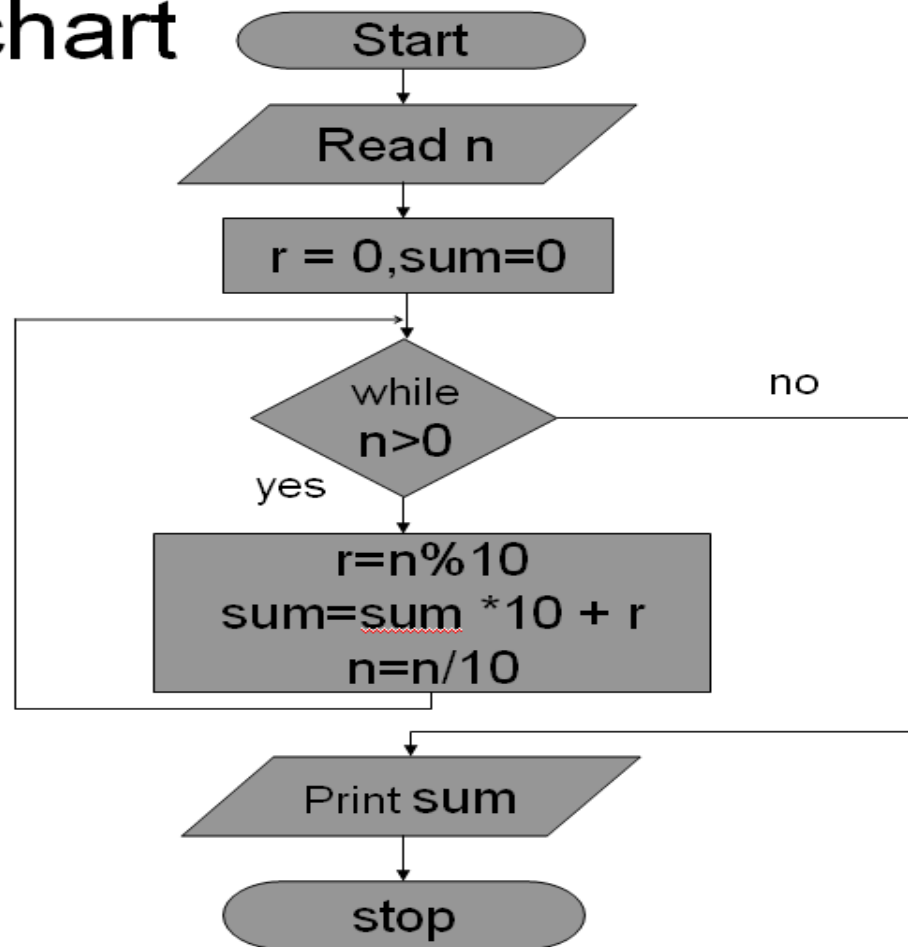
ENDWHILE

Repeat the loop until condition fails

WRITE sum

Stop

Flowchart



Armstrong Number

Example: 153

$$1^3 + 5^3 + 3^3 = 153$$

Finding an Armstrong Number

Algorithm

Step1: Start

Step2: Read the value of n and set a = n, sum = 0

Step3: While n > 0 do

$r = n \% 10$

$sum = sum + r * r * r$

n=n/10

else Goto step5

Step4: Goto step 3

Step5: If a = sum then

Print Armstrong Number

Else

Print It is Not an Armstrong Number

Endif

Step6: Stop

Pseudocode

READ the value of n and set a =n, sum=0

WHILE (n>0) do

r=n%10

sum=sum + r*r*r

n=n/10

ENDWHILE

Repeat the loop until condition fails

IF a=sum THEN

WRITE Armstrong Number

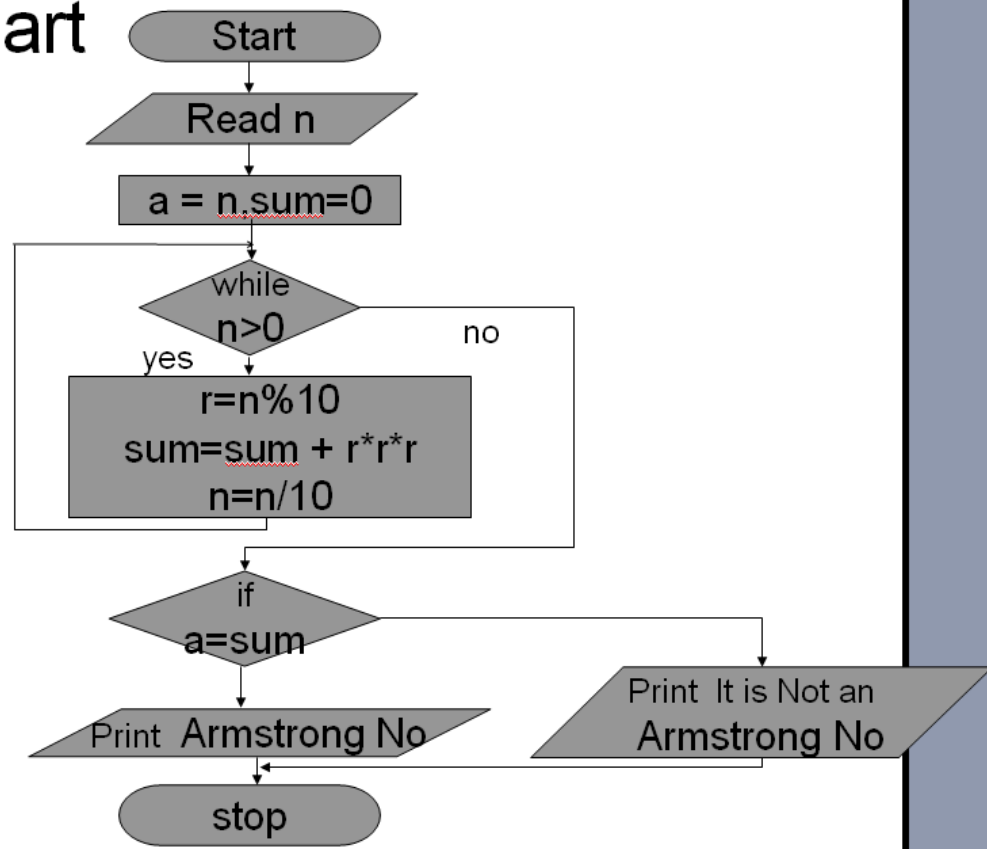
ELSE

WRITE It is not an Armstrong Number

ENDIF

stop

Flowchart



Fibonacci series

Example:

0 1 1 2 3 5 8 11....

Finding the Fibonacci series

Algorithm

Step1: Start

Step2: Read the value of n and set $f=0, f1=-1, f2=1$

Step3: While ($f < n$) do

```
f=f1+f2
f1=f2
f2=f
Print f
else Goto step5
```

Step4: Goto step 3

Step5: Stop

Pseudocode

READ the value of n and set f=0 ,f1=-1, f2=1

WHILE (f<n) do

```
f=f1+f2
f1=f2
f2=f
```

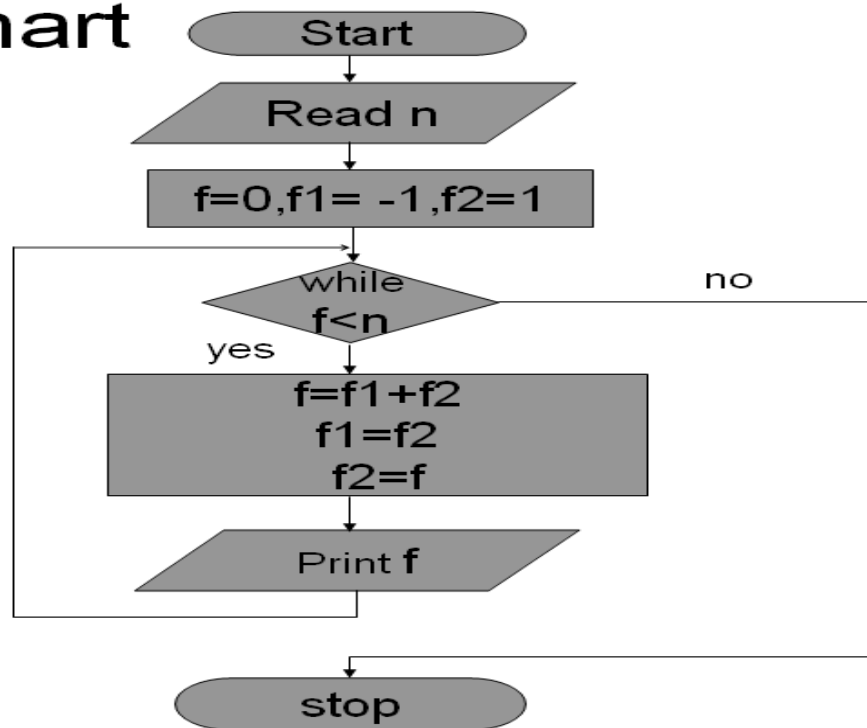
WRITE f

ENDWHILE

Repeat the loop until condition fails

Stop

Flowchart



Conversion of Celsius to Fahrenheit

Algorithm

Step1: Start

Step2: Read the value of Celsius

Step3: Fahrenheit = $(1.8 * \text{Celsius}) + 32$

Step4: Print Fahrenheit

Step5: Stop

Pseudocode

Set Fahrenheit

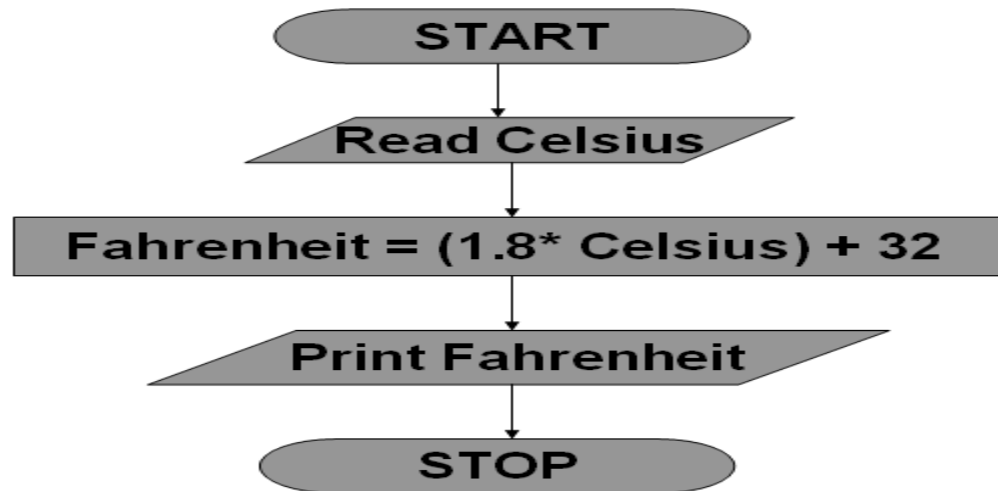
READ the Celsius

COMPUTE Fahrenheit = $(1.8 * \text{Celsius}) + 32$

PRINT Fahrenheit

Stop

Flowchart



Conversion of Fahrenheit to Celsius

Algorithm

Step1: Start

Step2: Read the value of Fahrenheit

Step3: Calculate Celsius = (Fahrenheit – 32)/1.8

Step4: Print Celsius

Step5: Stop

Pseudocode

Set Celsius

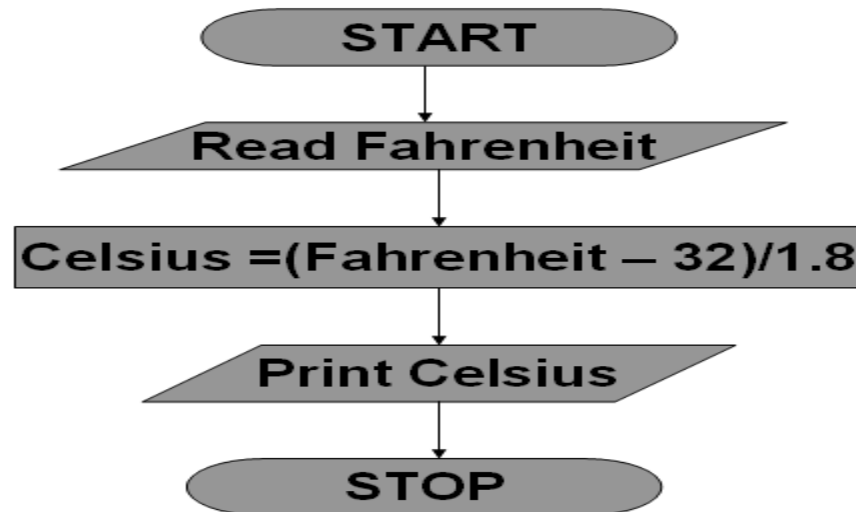
READ the Fahrenheit

COMPUTE Celsius =(Fahrenheit – 32)/1.8

PRINT Celsius

Stop

Flowchart



Finding the sum of odd number between 1 to n

Algorithm

Step1: Start

Step2: Read the value of n and set sum=0,i=1

Step3: While (i<=n) do

sum=sum+i

i=i+2

else Goto step5

Step4: Goto step 3

Step5: Print sum

Step6: Stop

Pseudocode

READ the value of n and set sum=0,i=1

WHILE ($i \leq n$) do

$\text{sum} = \text{sum} + i$

$i = i + 2$

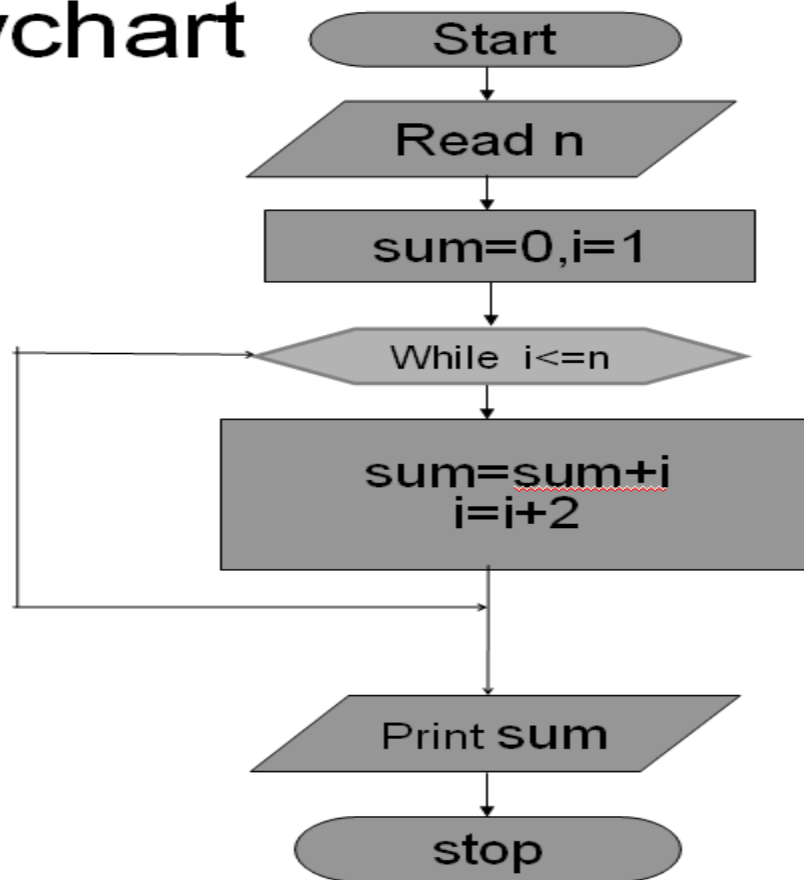
ENDWHILE

Repeat the loop until condition fails

WRITE sum

Stop

Flowchart



Conversion of Binary number to Decimal

Algorithm

Step1: Start

Step2: Read the value of n and set $i = 0$, $\text{sum} = 0$

Step3: While $n > 0$ do

$r = n \% 10$

$sum = sum + r * pow(2, i)$

$n = n / 10$

$i = i + 1$

else Goto step5

Step4: Goto step 3

Step5: print the value of sum

Step6: Stop

Pseudocode

READ the value of n and set $i = 0$, $sum = 0$

WHILE ($n > 0$) do

$r = n \% 10$

$sum = sum + r * pow(2, i)$

$n = n / 10$

$i = i + 1$

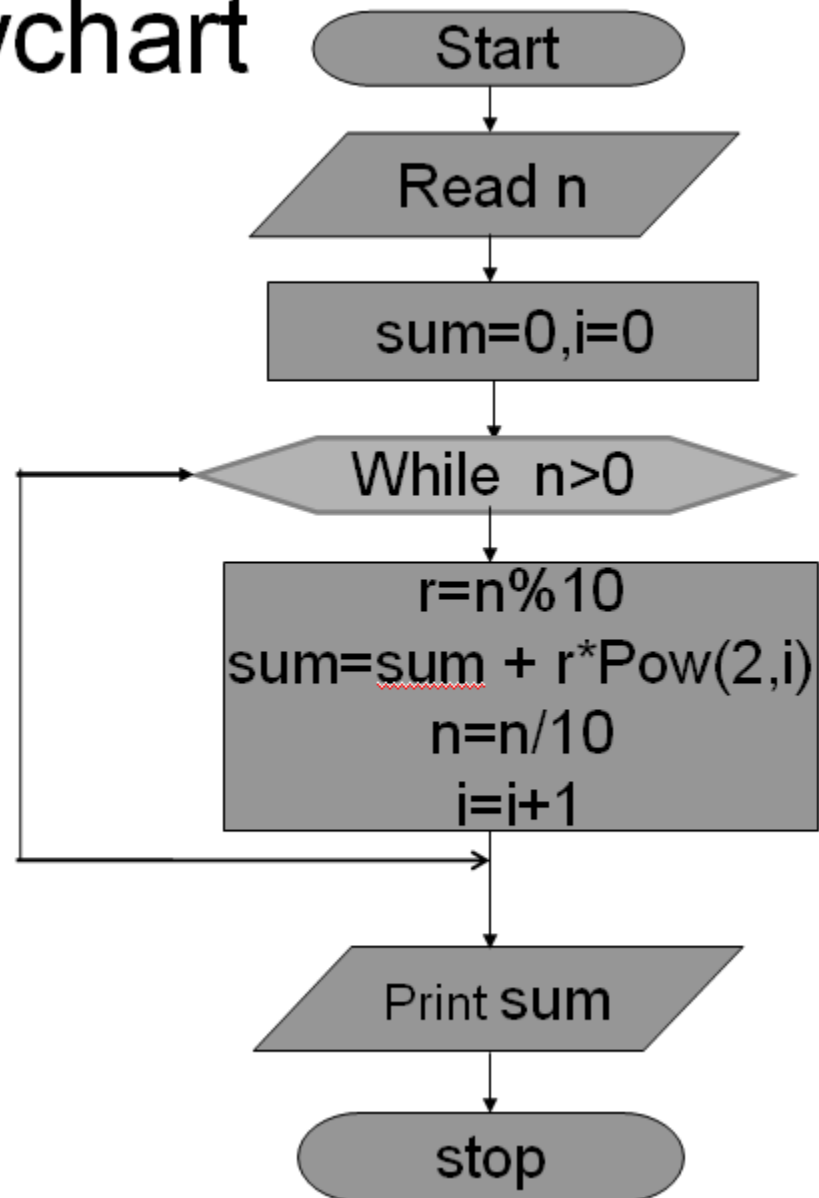
ENDWHILE

Repeat the loop until condition fails

WRITE sum

Stop

Flowchart



Application software Packages

Application software

- Set of programs, which is used to perform some specific task.
- Example:
 - Word processor
 - Spreadsheet program
 - Database program etc.,

MS-Word

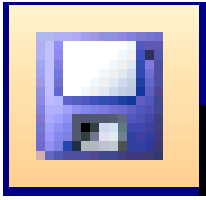
- Starting MS-Word
Start → Microsoft Office □ All Programs → Microsoft Office Word
- **Creating a New Document**
File → New (or) **ctrl+N**
(or) clicking the new button



- **Opening a Document**
File → Open (or) **ctrl+O**
(or) clicking the open button



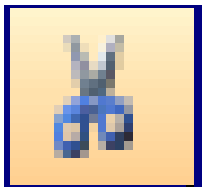
- **Saving a New Document**
File → Save (or) **ctrl+S**
(or) clicking the save button



- **Printing a Document**
File → Print (or) **ctrl+P**
(or) clicking the open button



- **Moving the Text**
Ctrl+X
(or) clicking the cut button



- **Copying the Text**
Ctrl+P
(or) clicking the copy button
Find and Replace

- Find & Replace
Edit → Find and Replace (or) Ctrl+F

Formatting the Document Format Menu (**Format → Font**) Font size, type, colour, Subscript, Superscript, Spacing, Text Effects etc.,.

— Bullets and Numberings

— Changing case

— Borders and Shadings etc.,