

# FLOWCHART & EXAMPLES



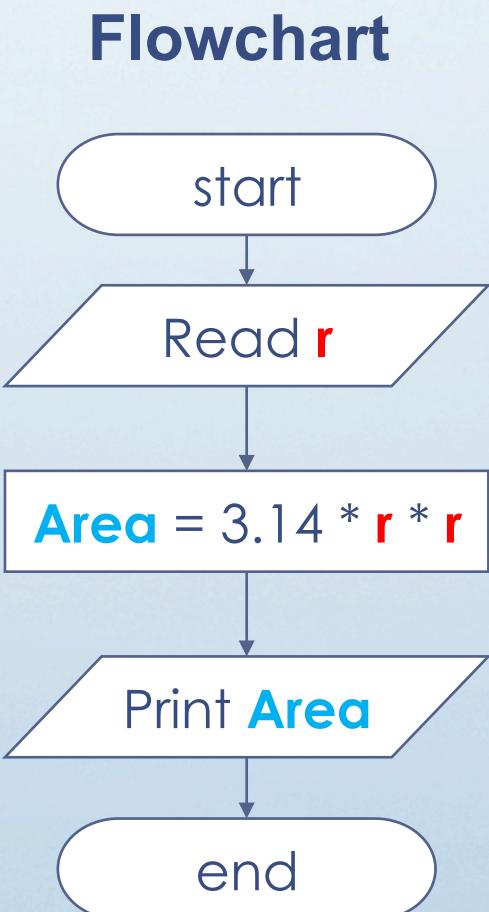
# Flowchart Symbols

Symbol	Name	Function
	Process	Indicates any type of internal operation inside the Processor or Memory
	Input / output	Used for any Input / Output (I/O) operation. Indicates that the computer is to obtain data or output results
	Decision	Used to ask a question that can be answered in a binary format (Yes/No, True/False)
	Connector	Allows the flowchart to be drawn without intersecting lines or without a reverse flow.
	Predefined process	Used to invoke a subroutine or an Interrupt program.
	Terminal	Indicates the starting or ending of the program, process, or interrupt program
	Flow Lines	Shows direction of flow.

# Problem1

Find the area of a circle of radius  $r$

**Inputs** to the algorithm : Radius  $r$  of the Circle.  
**Expected output** : **Area** of the Circle



## Algorithm

Step 1 : Start

Step 2 : Read\input the Radius  $r$

Step 3 :  $\text{Area} \leftarrow \text{Pi} * r * r$

Step 4 : Print **Area**

Step 5 : End

# Problem 2

Convert temperature Fahrenheit (**F**) to Celsius (**C**)

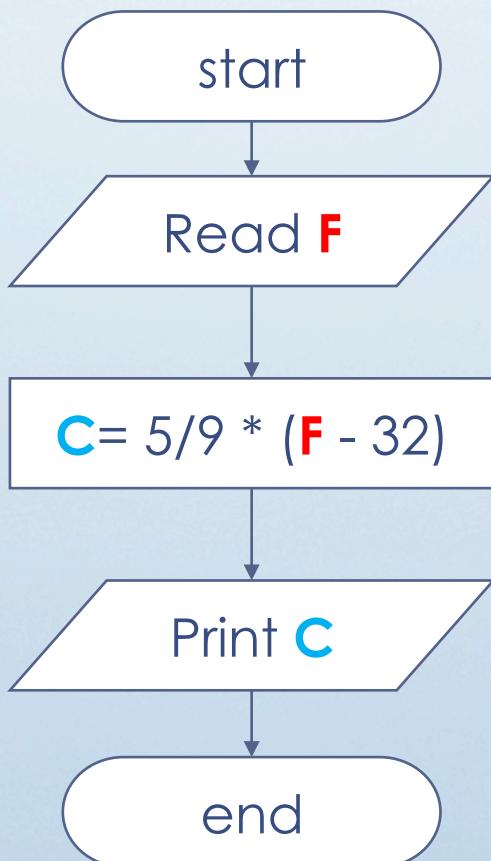
**Inputs** to the algorithm

: Temperature in Fahrenheit, **F**

**Expected output**

: Temperature in Celsius, **C**

## Flowchart



## Algorithm:

Step 1: Start

Step 2: Read Temperature in Fahrenheit **F**

Step 3: **C**  $\leftarrow$   $5/9 * (F - 32)$

Step 4: Print Temperature in Celsius: **C**

Step 5: End

# Problem 3

Flowchart for an algorithm which gets two numbers and prints sum of their value

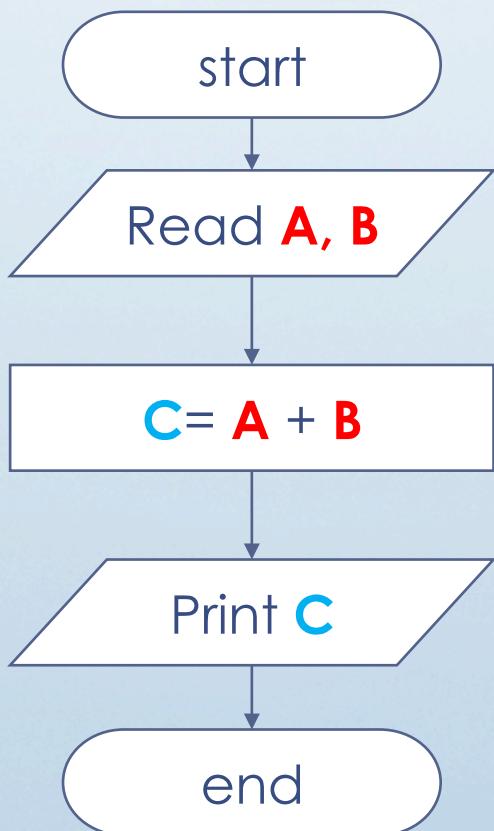
**Inputs** to the algorithm

Expected output

: First **A** and Second **B**.

: **C** of the two numbers

## Flowchart



## Algorithm:

Step 1: Start

Step 2: Read the numbers **A**, **B**.

Step 4: **C**  $\leftarrow$  **A** + **B**

Step 5: Print Sum

Step 6: End

# Problem 5

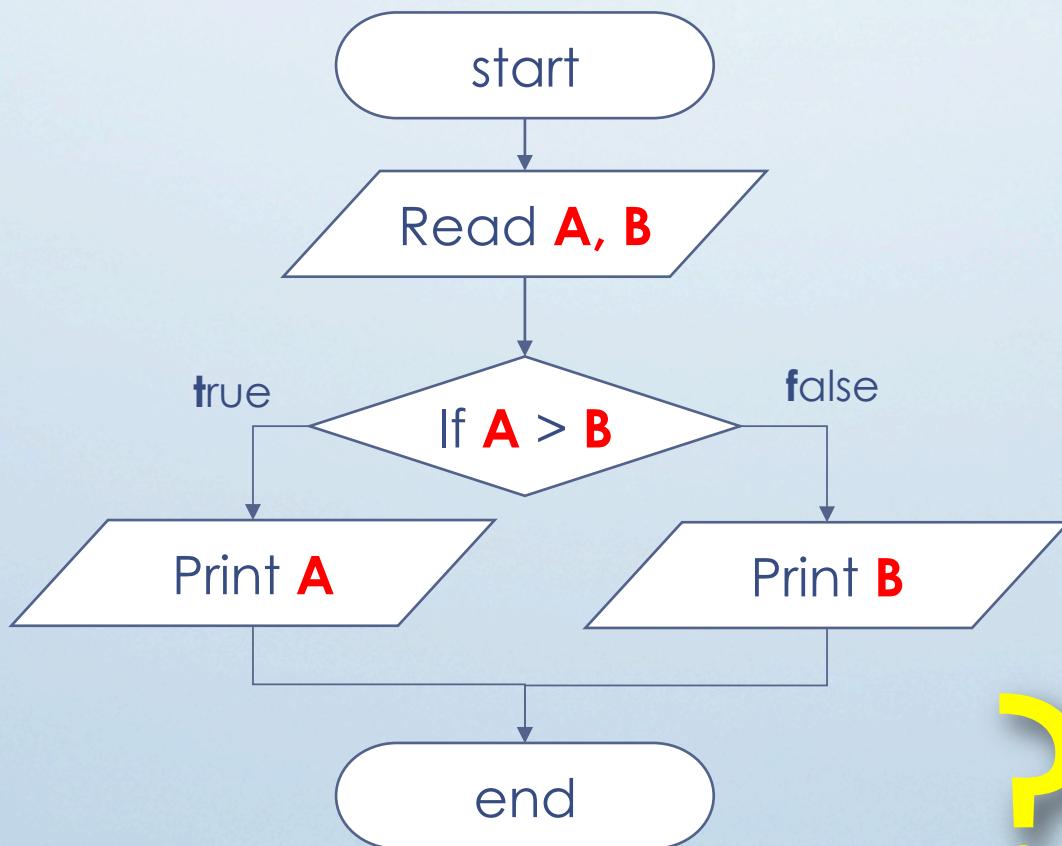
Algorithm for find the greater number between two numbers.

**Inputs** to the algorithm

Expected **output**

: Two numbers **A** , **B**.

: **C** greater number



## Algorithm:

Step 1: Start

Step 2: Read/input **A** and **B**

Step 3: If **A** greater than **B** then **C=A**

Step 4: If **B** greater than **A** then **C=B**

Step 5: Print **C**

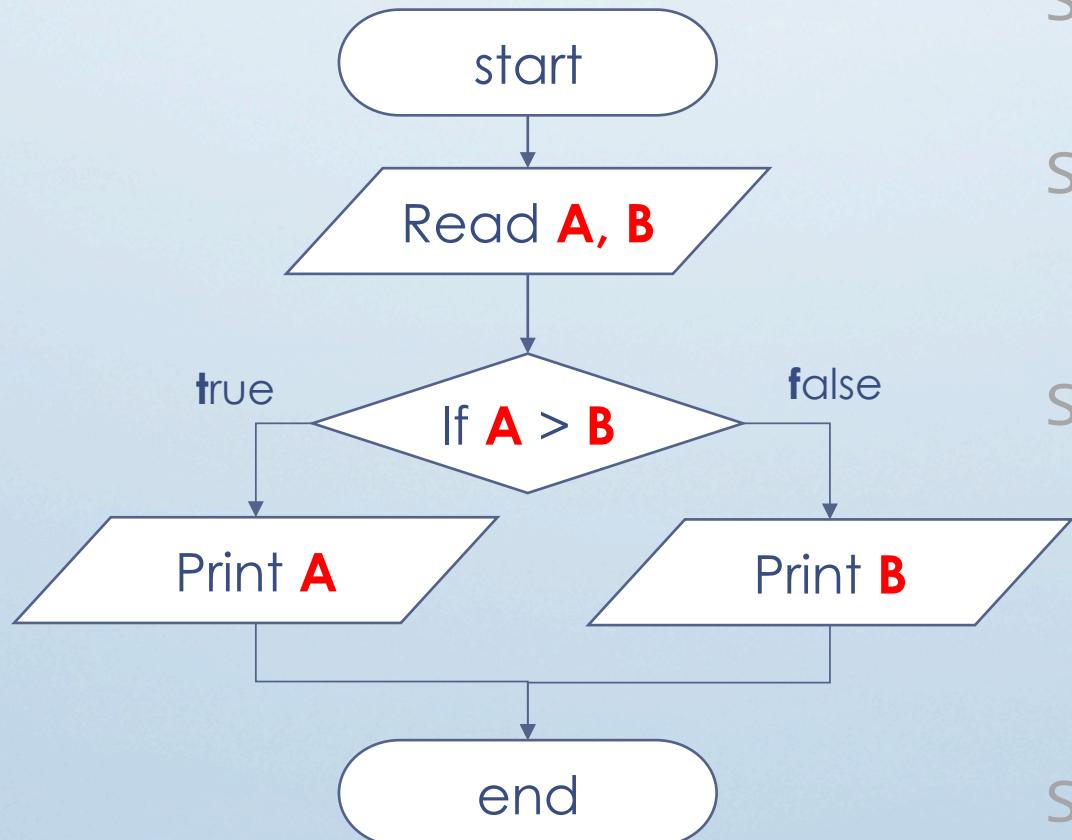
Step 6: End



# Problem 5

Algorithm for find the greater number between two numbers.

## Flowchart



## Algorithm:

Step 1: Start

Step 2: Read/input A and B

Step 3: If A greater than B

Then print A

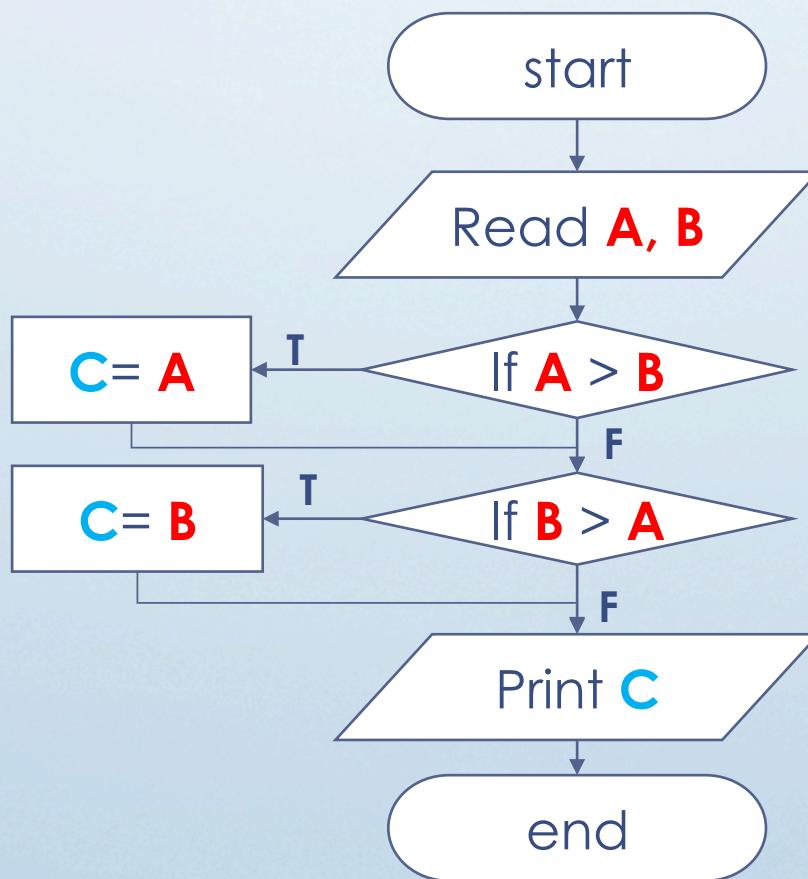
Else print B

Step 4: End

# Problem 5

Algorithm for find the greater number between two numbers.

Flowchart



Algorithm:

Step 1: Start

Step 2: Read/input A and B

Step 3: If A greater than B then C=A

Step 4: If B greater than A then C=B

Step 5: Print C

Step 6: End

# Problem 6

Flowchart for an algorithm to calculate even numbers between 0 and 99

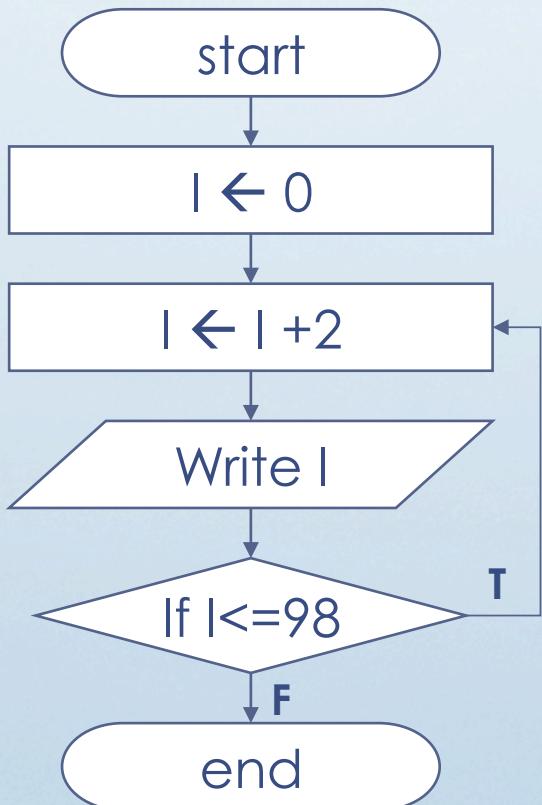
**Inputs** to the algorithm

: numbers from 0 to 99,

**Expected output**

: **even** numbers in given interval,

## Flowchart



## Algorithm:

Step 1: Start

Step 2:  $I \leftarrow 0$

Step 3:  $I \leftarrow I+2$

Step 4: Write  $I$  in standard output

Step 5: If ( $I \leq 98$ ) then go to line 3

Step 6. End

# Problem 7

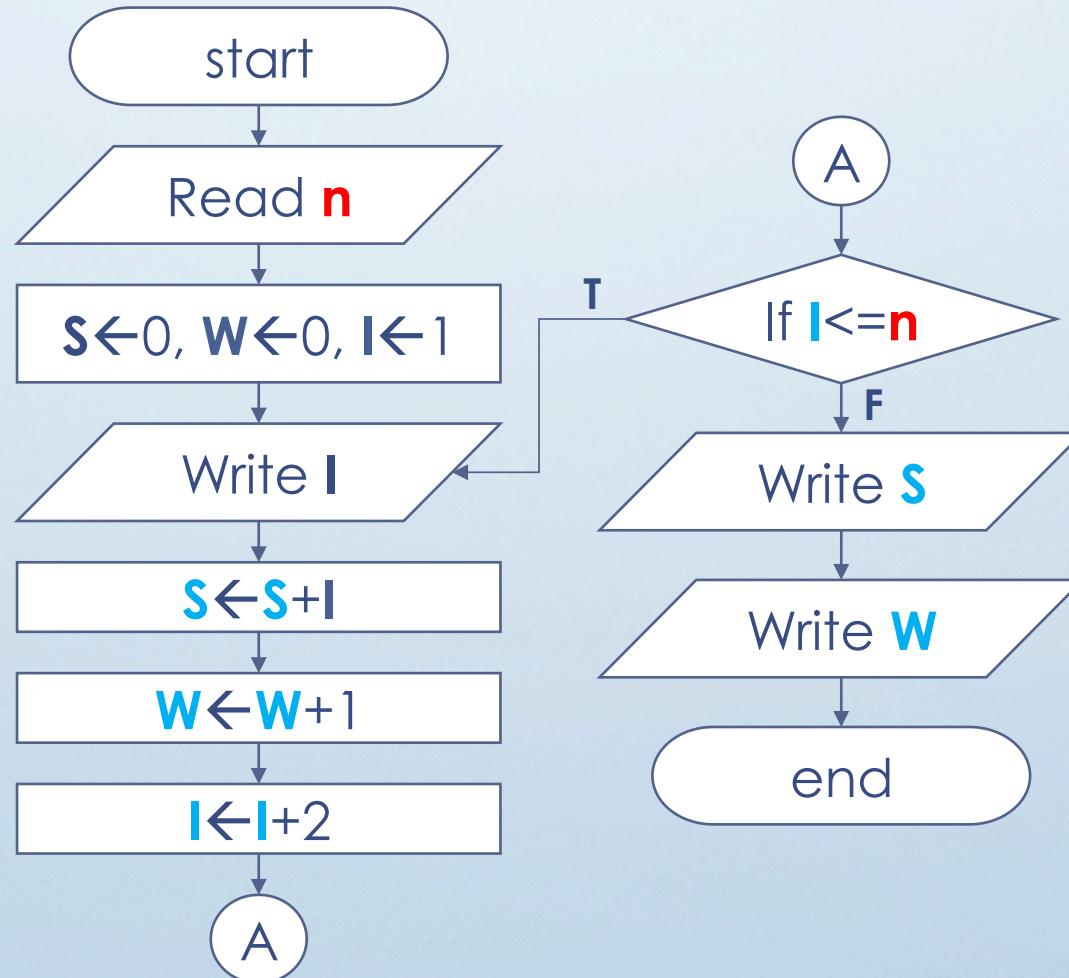
Flowchart for the problem of printing **odd** numbers less than a **given number**. It should also calculate their **sum** and **count**.

**Inputs to the algorithm**

: numbers from 0 to **given number ( $n$ )**,

**Expected output**

: **odd** numbers in given interval and their **sum** and **count**,



$n = 10$

I	S	W
1	1	1
3	4	2
5	9	3
7	16	4
9	25	5

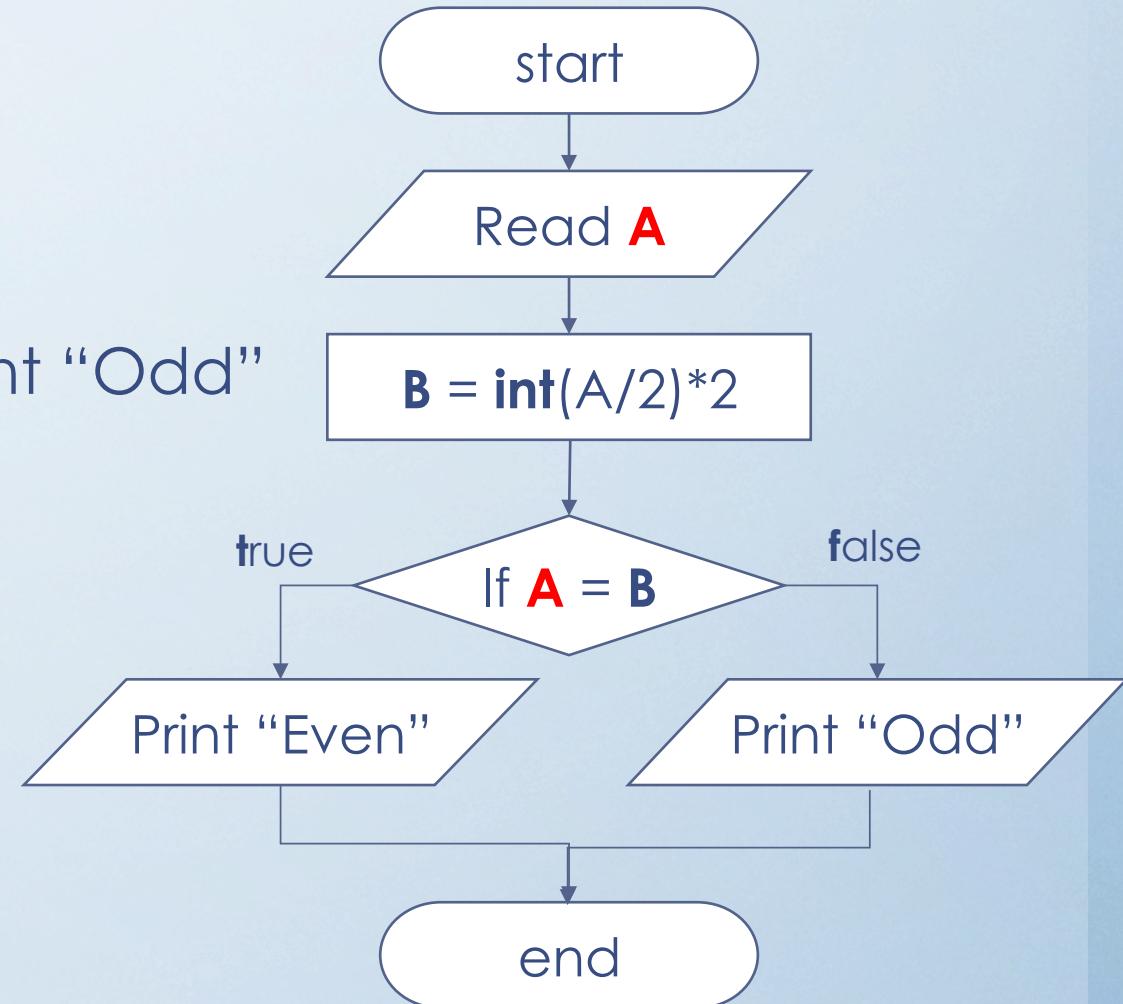
$n = 100$

I	S	W
1	1	1
3	4	2
5	9	3
7	16	4
9	25	5
11	36	6
...	...	...
95	2304	48
97	2401	49
99	2500	50

Ex: Develop an algorithm that prints on the screen whether an integer number entered from the keyboard is odd or even, and draw the flow chart.

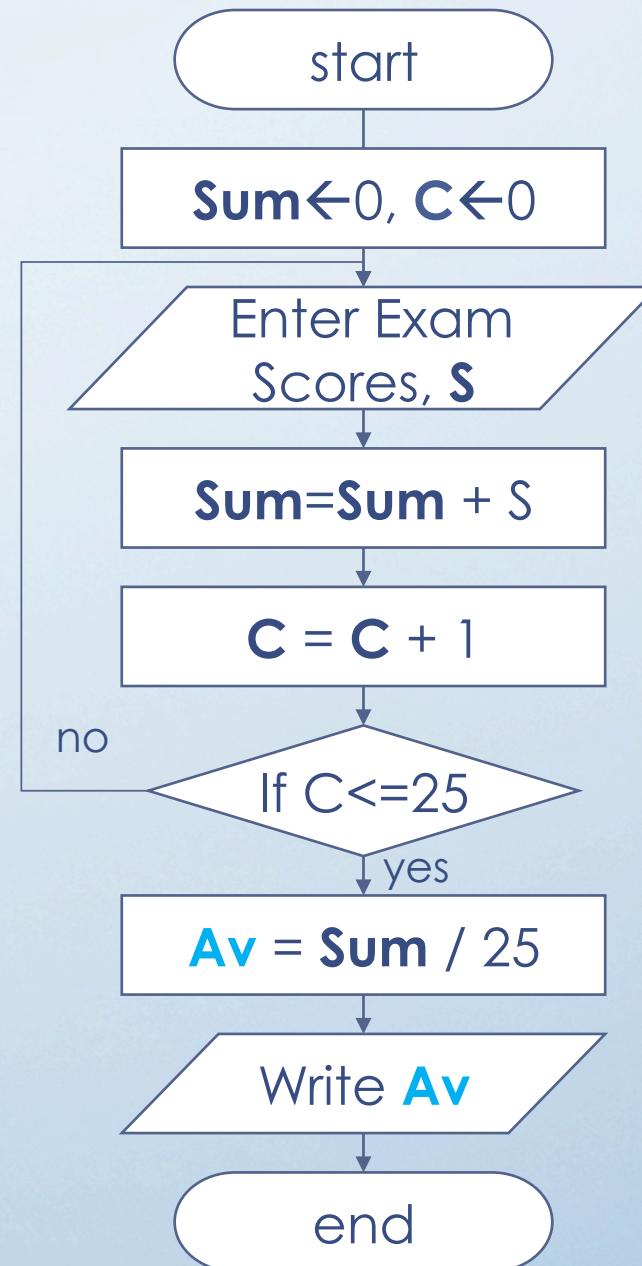
### Algorithm:

1. Start
2. Read A
3.  $B = \text{int}(A/2)*2$
4. If  $A=B$  then print "Even" else print "Odd"
5. End



# Problem 8

Flowchart for the calculate the average from 25 exam scores which supplied user's entrance.



?

**Ex:**

Write an algorithm that gives the product of two integer numbers without using the multiplication operator and plot the flow diagram

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**Ex:**

Write an algorithm that computes quotient and remainder when dividend and divisor are given without using the division operator

Ex: Write an algorithm that finds the largest element in a number array, draw the flow diagram.

Ex: Write an algorithm that counts how many elements are larger than the given value in a number array.