

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.

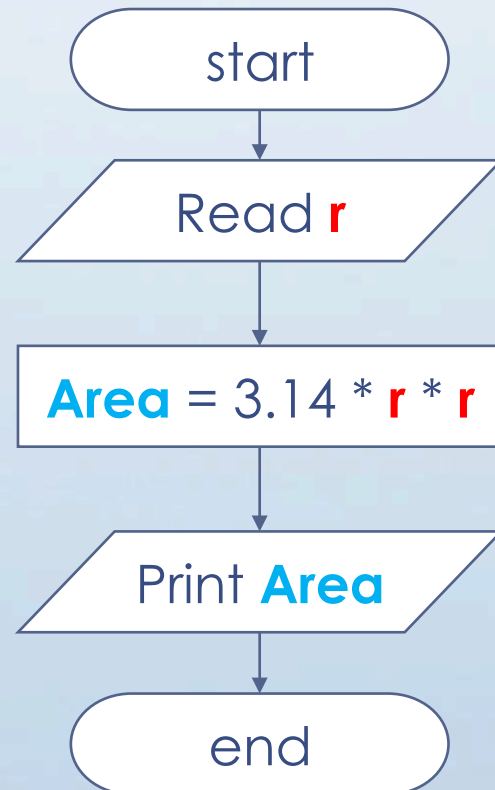
Problem1

Find the area of a circle of radius r

Inputs to the algorithm : Radius r of the Circle.

Expected output : **Area** of the Circle

Flowchart



Algorithm

Step 1 : Start

Step 2 : Read\input the Radius r

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

Step 4 : Print **Area**

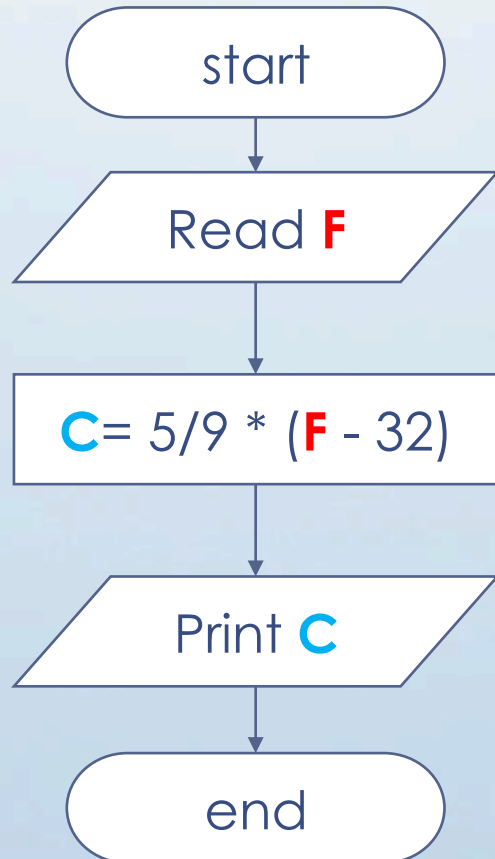
Step 5 : End

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**

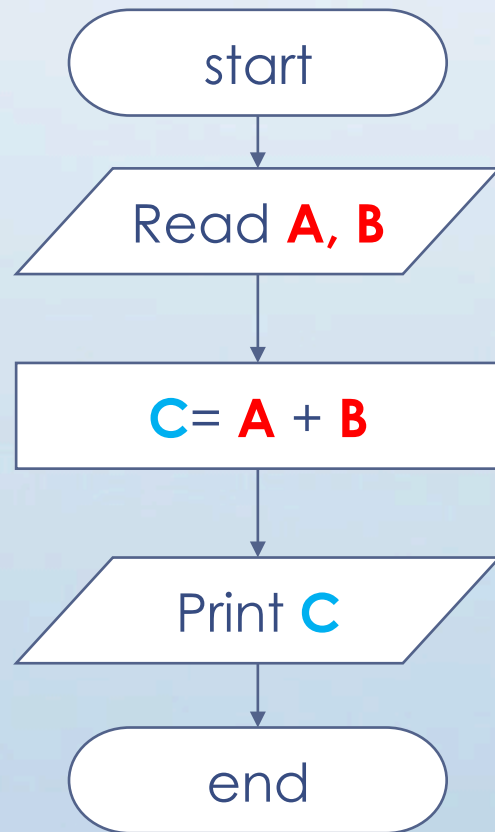
Step 5: **End**

Problem 3

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

Inputs to the algorithm : First **A** and Second **B**.
Expected output : **C** of the two numbers

Flowchart



Algorithm:

Step 1: **Start**

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

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

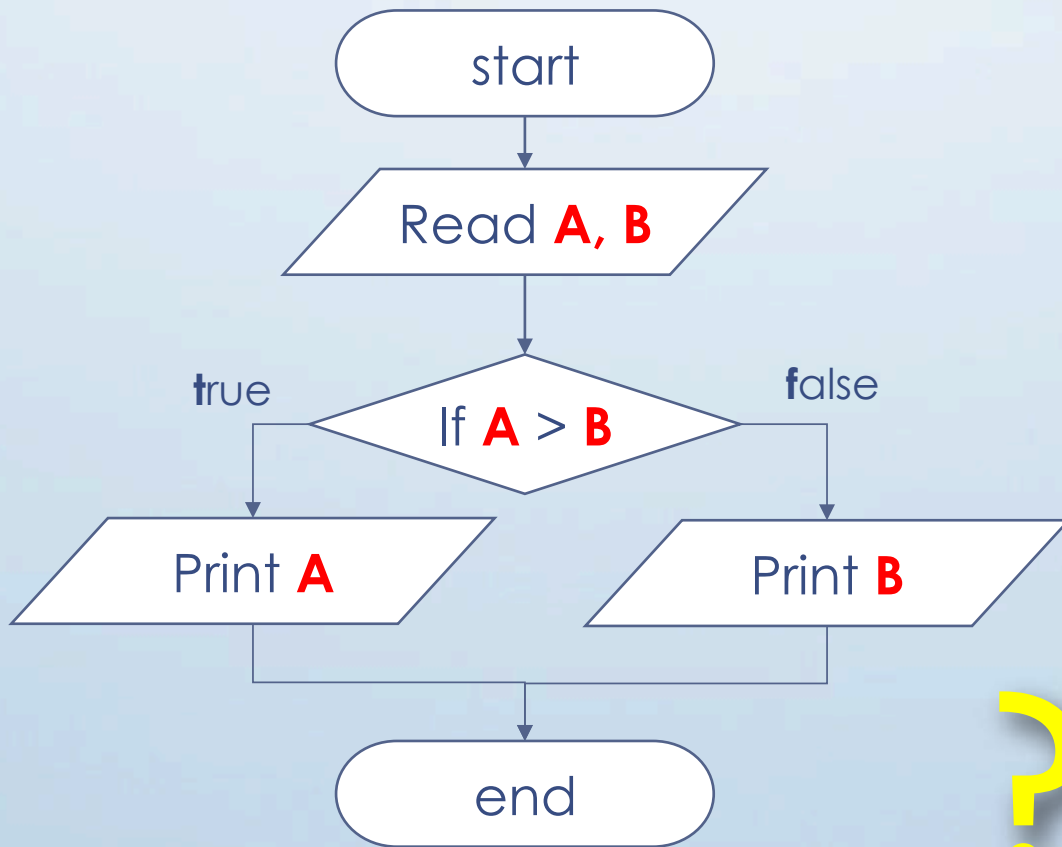
Step 5: **Print** **Sum**

Step 6: **End**

Problem 5

Algorithm for find the greater number between two numbers.

Inputs to the algorithm : Two numbers **A** , **B**.
Expected output : **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**

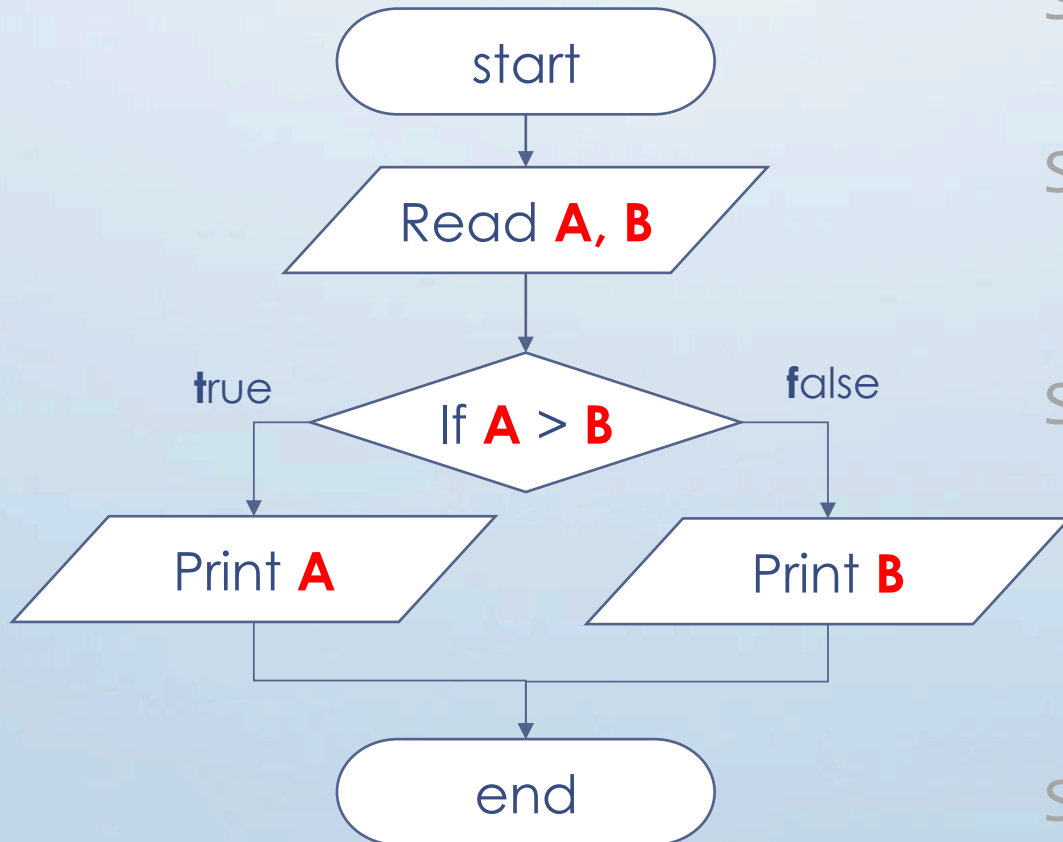
Step 6: End



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

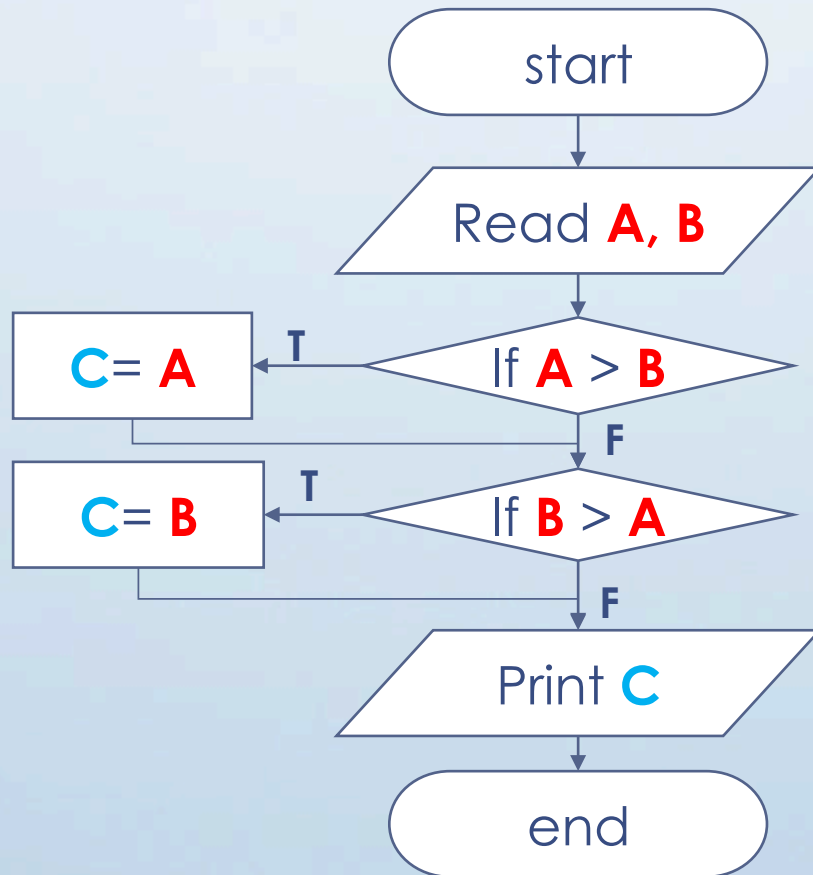
Else print B

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**

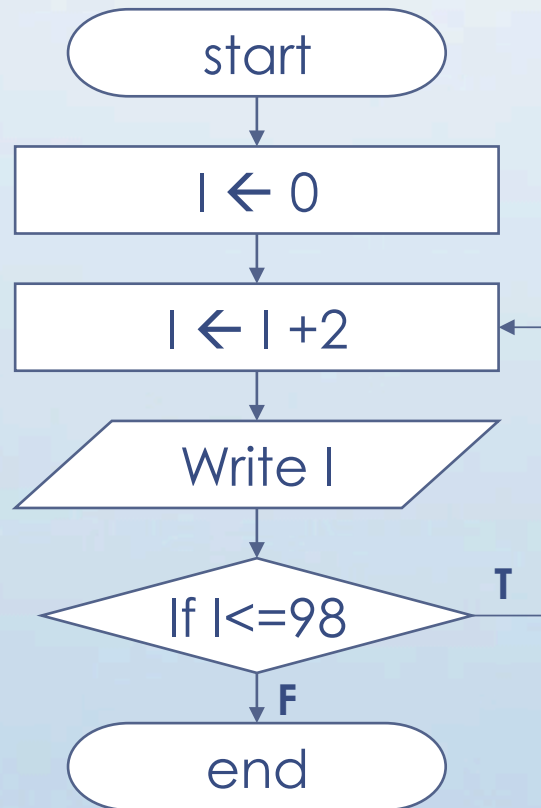
Step 6: **End**

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

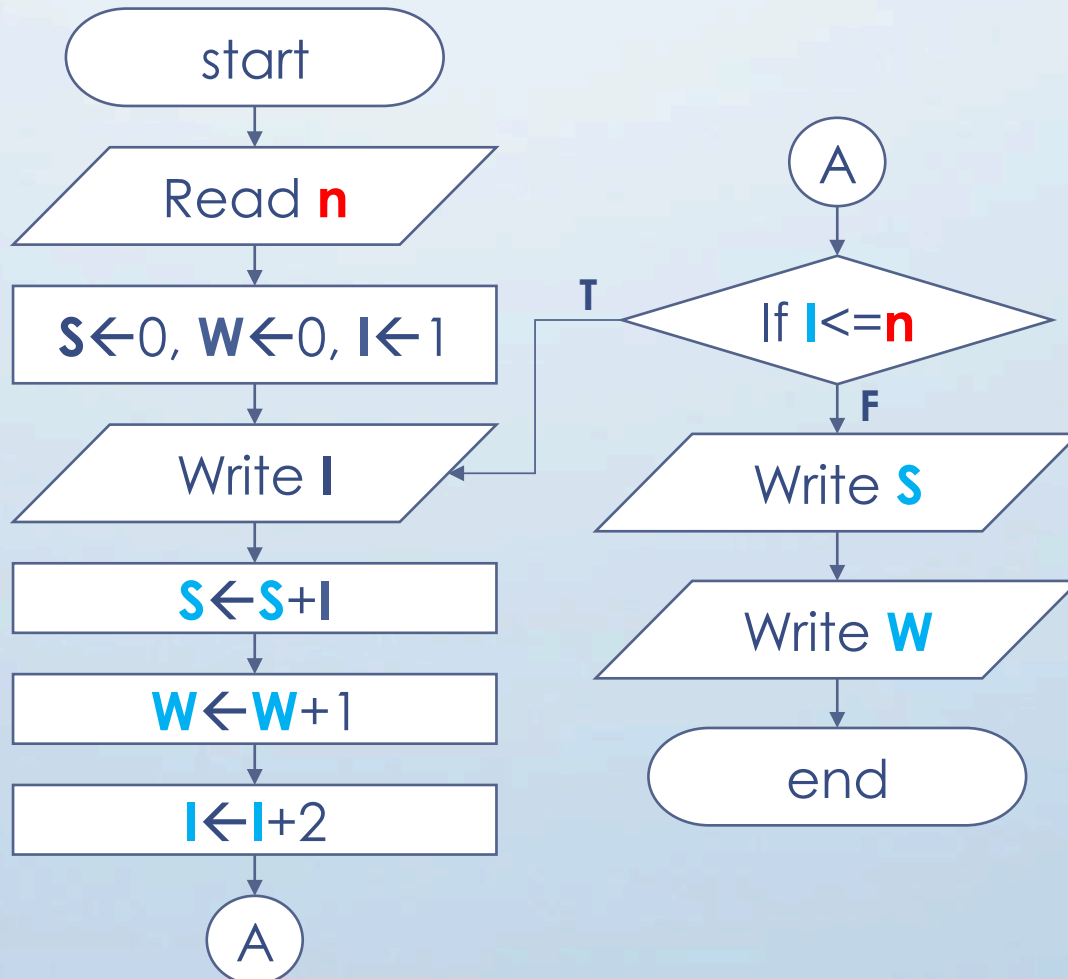
Step 6. **End**

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

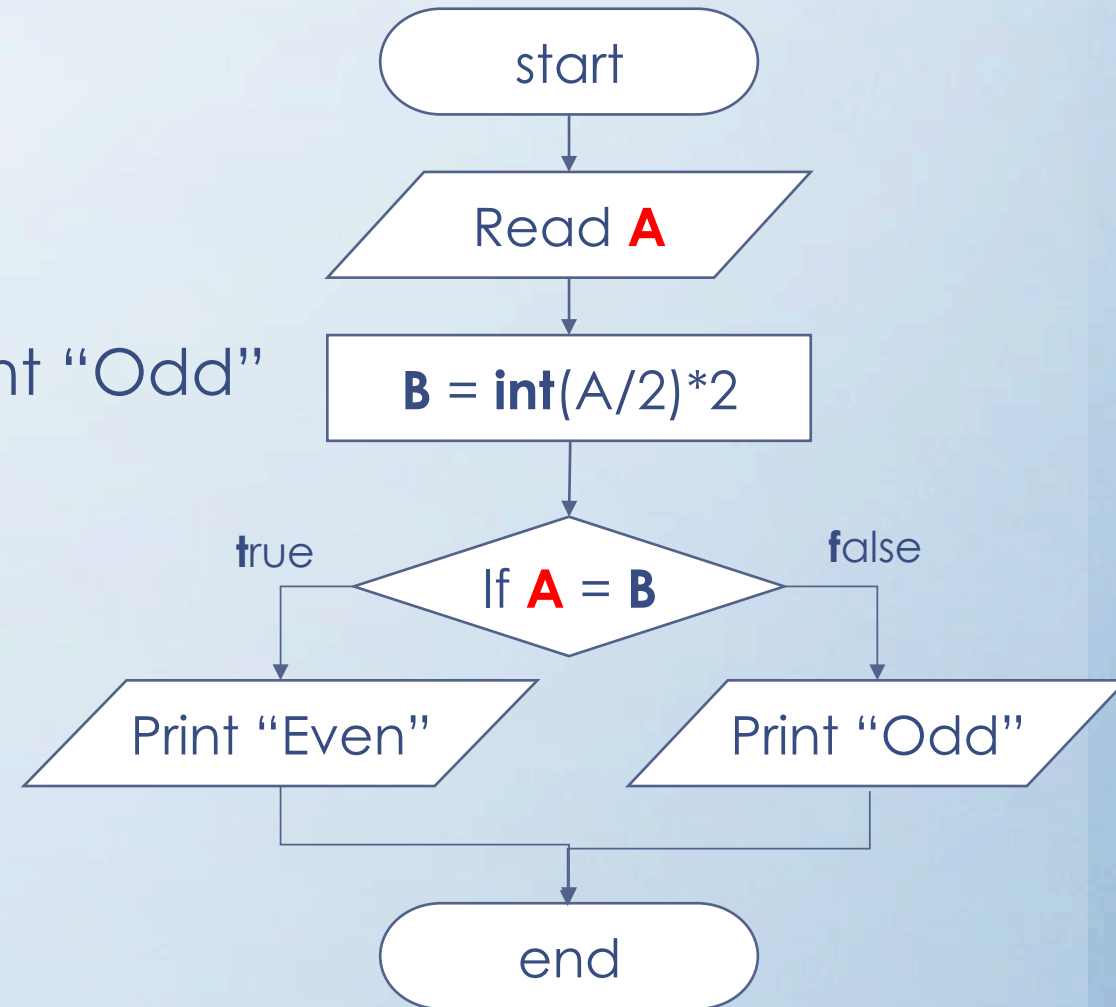
n = 100

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.

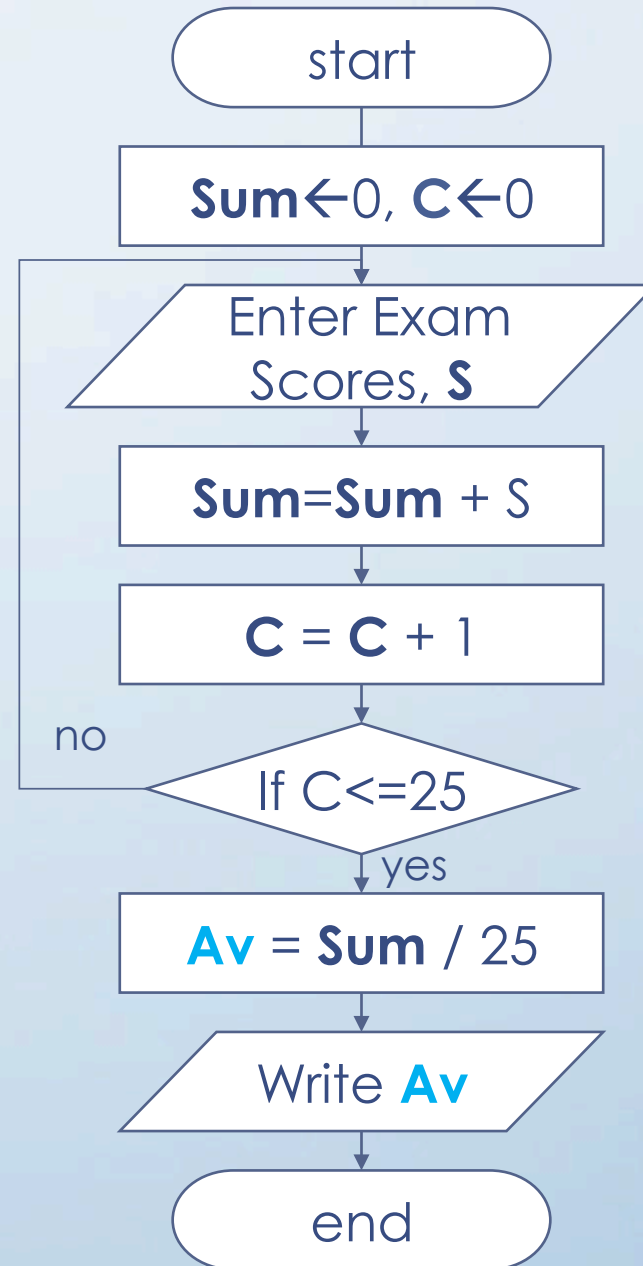
Algorithm:

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



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.