— University of Mosul —
College of Petroleum & Mining Engineering

"Computer Programing II /Theoretical"

Second class

Lecture …(5)….

Ass.L. Zahraa Ghanim younis Al-alaf

Petroleum and Refining Engineering Department

Email: zahraaalmajidi@uomosul.edu.iq

LECTURE CONTENTS

Flowchart Symbols

Flowchart Symbols-:

Flowcharts use special shapes to represent different types of actions or steps in a process. Lines and arrows show the sequence of the steps, and the relationships among them. These are known as flowchart symbols.

The type of diagram dictates the flowchart symbols that are used. For example, a data flow diagram may contain an Input /Output Symbol (also known as an I/O Symbol), but you wouldn't expect to see it in most process flow diagrams.

Flow Chart Symbol	Meaning	Explanation
	Start and end	The symbol denoting the beginning and end of the flow chart.
	Step	This symbol shows that the user performs a task. (Note: In many flow charts steps and actions are interchangeable.)
	Decision	This symbol represents a point where a decision is made.
	Action	This symbol means that the user performs an action. (Note: In many flow charts steps and actions are interchangeable.)
	Flow line	A line that connects the various symbols in an ordered way.

Input: Request user input

Syntax: var = input(prompt) : is used to input numeric , 'character' , or 'string' data.

str = input(prompt,'s') : any input will represented as string data.

var = input(' any text ') : displays the prompt string on the screen, waits for input from the keyboard, and returns the result.

If you press the Return key without entering anything, then input returns an empty matrix.

If you enter an invalid value then MATLAB displays the relevant error message,

str= input(' any text ' ,'s'): returns the entered text as string,

ex: >> a= input('enter your name: ','s')

enter your name: ali

a = ali ; a has string value 'ali'

>> a= input('enter your age: ','s')

enter your age: 20

a = 20 ; here 20 is string value not numeric value..

; now **what is the content of variable a ?**

1- 20 2- ' 20 ' 3- both ' ali ' , '20' 4- empty

Exercise-1-: True or false ?

>> k=input('k= ' ,'s')

>> A=k+20

Exercise-2-: >> n= input('enter n='); which one is correct at run time :

1. Enter n= 'ali' 2- enter n = ali 3- enter n = 9 4- no one

Exercise-3-: >> n= input('enter n=' ,'s'); which one is correct at run time :

1. Enter n= 'ali' 2- enter n = ali 3- enter n= 9 4- no one

Exercise4-: Request a numeric input, and then multiply the input by 10.

```
prompt = 'What is the original value? ';
result = input(prompt)
largernum = result * 10
```

At run time enter a numeric value	at 2nd run time enter an array, such as
'What is the original value? 42 result = 42 largernum = 420	'What is the original value? [6 5 3] result = 6 5 3 largernum = 60 50 30