

Course N°7

The if-else-elseif-end Condition in MATLAB



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1.Introduction

In this chapter, we cover the next building block in basic programming, one that exists in most programming languages and that is the conditional operators. The first conditional operator discussed is the *if-end* command. Next, we cover the *if-else-end*. Finally, we cover *if-elseif-end*.

2.Conditional operators and alternate paths

2.1. the if command (conditional execution)

The if statement is the **simplest** and **most widely used** of the **flow control structures**. It allows program execution to be directed according to the logical value of a condition. Use an if statement if you need to ask a question in order to determine what to do next.

Note.

- Conditional statements enable MATLAB to make decisions.
- The process is similar to the way we humans makes decisions.
- A condition stated. If the condition is met, one set of actions is taken. If the condition is not met either nothing is done, or a second set of actions is taken.
- For every if command a computer program must have an end command.
- A program can have many **if....end** statements following each other.
- A computer program can perform the same task using different combinations of **is-end**, **if-else-end**, and **if-elseif-else-end** statements.
- MATLAB starts at the beginning of the **if** sequence.
- It proceeds one condition to the next.
- When it finds a true statement, the appropriate section of the code is executed.
- The sequence is then terminated!!!
- The last section of code is closed using the keyword **end**.
- If two mutually exclusive actions can occur as a result of a decision, use the else statement.

The form of a conditional statement

Relational operator	Meaning
<	Less than

<=	Less than or equal to
>	Greater than
>=	Greater than or equal to
=	Equal to
~=	Not equal to
&	And
	Or
~	not

3. The three forms of the if statement

There are three forms for an if statement :

❖ If-end by itself

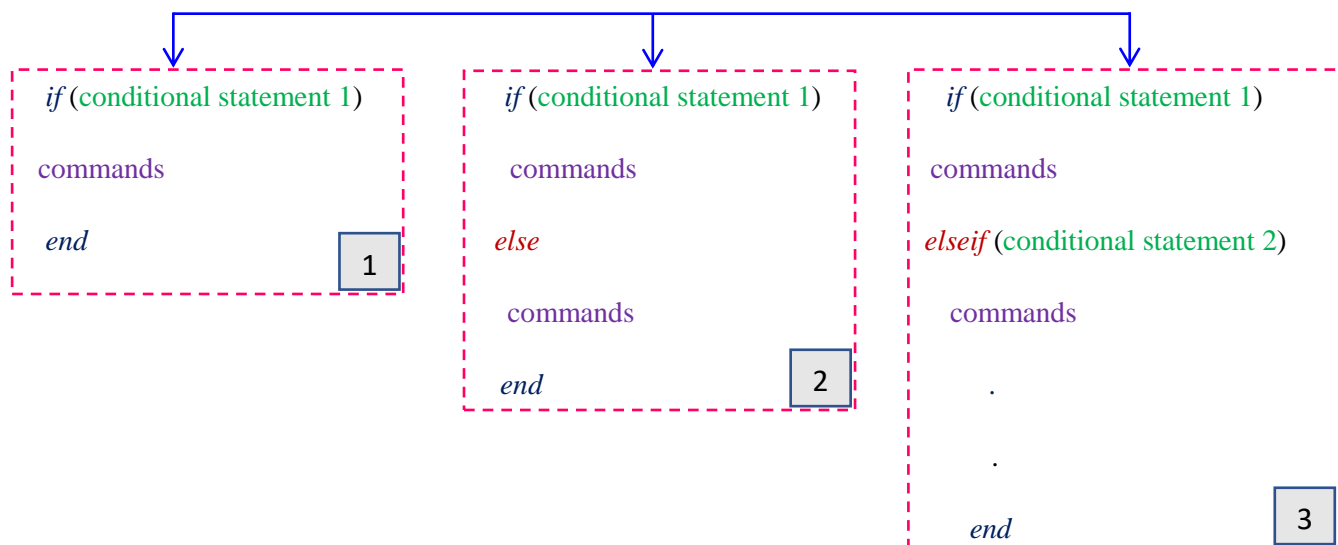
Use for **problems** where you want to do **something** or **nothing** (see fig.1).

❖ If-else-end

Use for **problems** where you want to **do one thing** or **another thing** (see fig.2).

❖ If-elseif-end

Use for **problems** where do you want to do **one thing out of three** or **more choices** (see fig.3).



Example

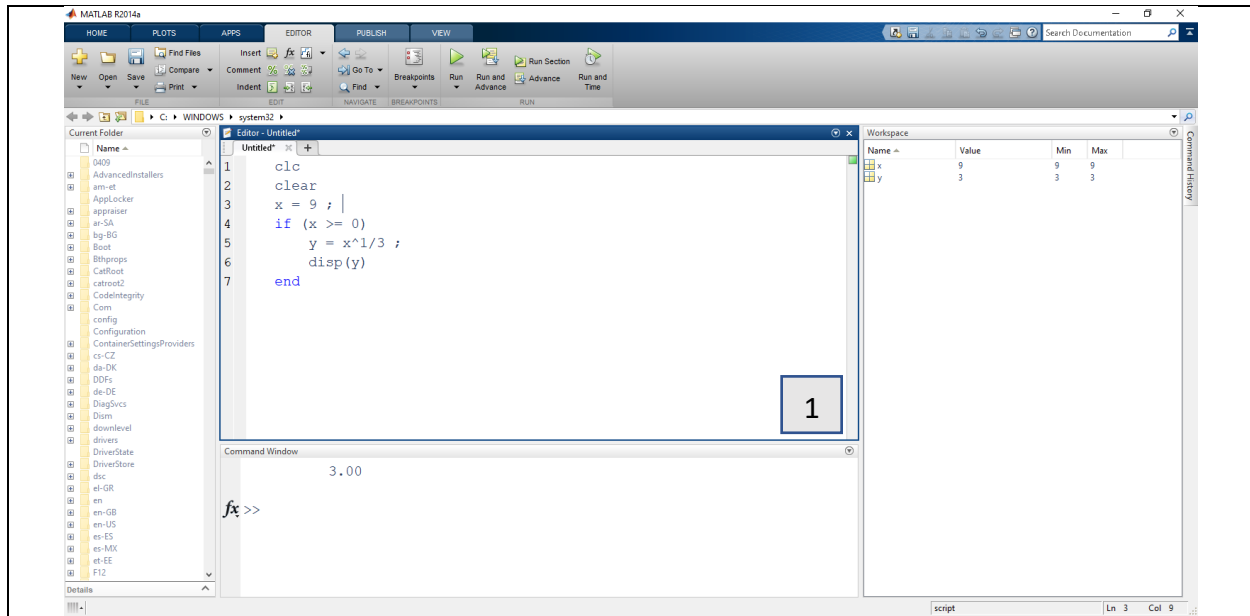


Fig 1. An example of the if statement

Example

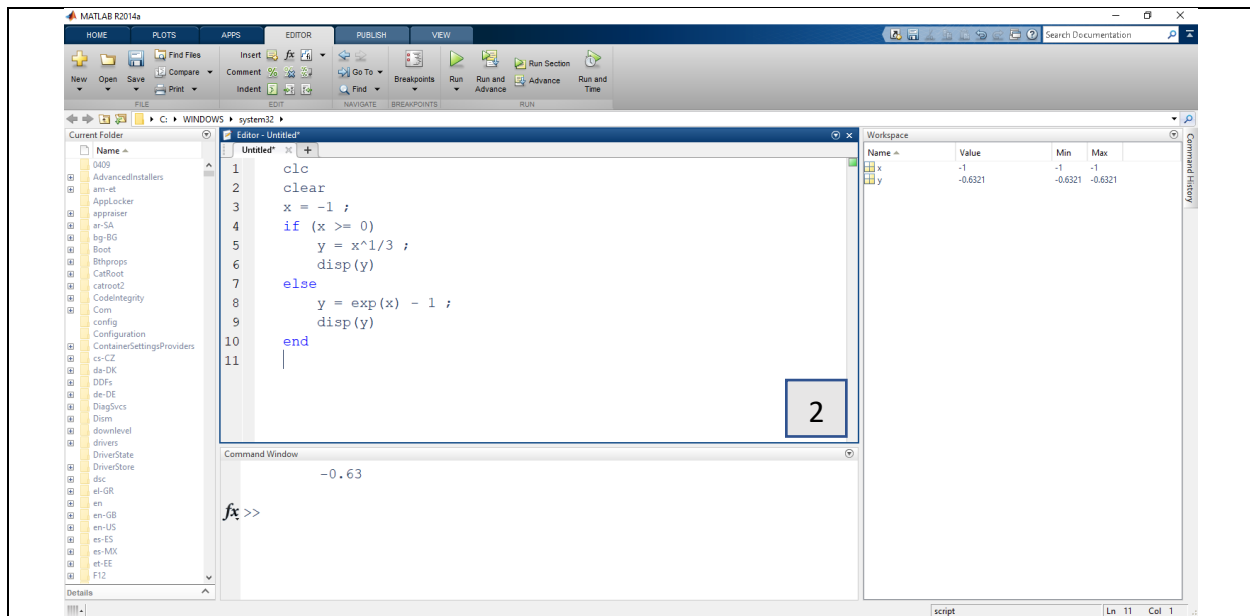


Fig 2. An example of the if-else statement

Example

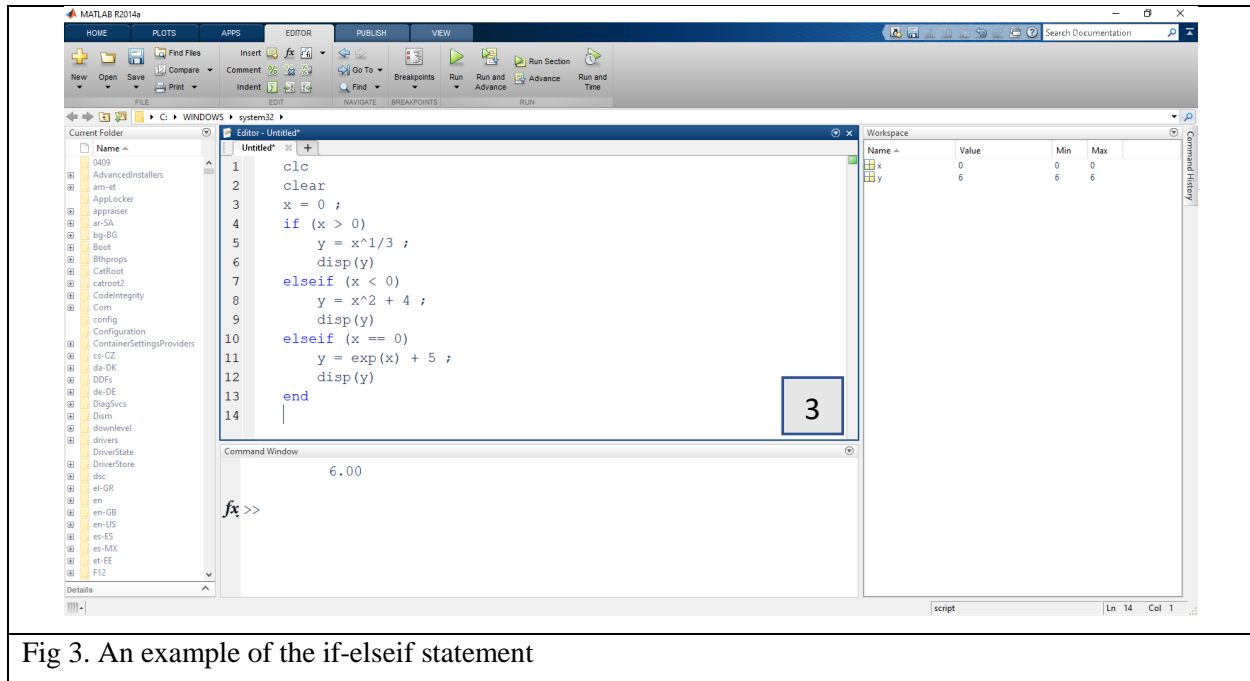


Fig 3. An example of the if-elseif statement

4.List of References

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