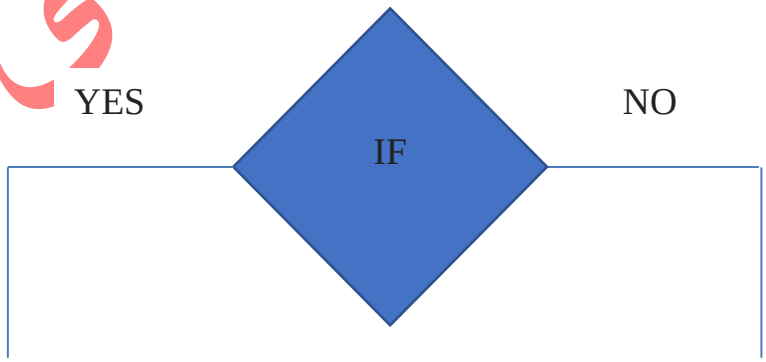
Lecture (5)

Chapter Two

عبارة عن تحديد مجموعة من الشروط المترتبة على بعضها بنظام معين فإذا تحقق الشرط (1) تكتب الايعاز (2) وإذا لم يتحقق تكتب الايعاز الاخر. وقد تكون الجمل الشرطية بسيطة وقد تكون مركبة وقد تتداخل احتمالات عدة جمل شرطية مع بعضها البعض ولذلك قد يطلق البعض على هذا النوع من التداخل بالتفرع.

It is about specifying a set of conditions that depend on each other in a specific system. If the condition (1) is met, the instruction (2) is written, and if it is not fulfilled, the other instruction is written. Conditional sentences may be simple or complex, and the possibilities of several conditional sentences may overlap with each other. Therefore, some may call this type of interference branching.

Represent the conditional if statement with a flowchart



**There are several ways to explain the conditional if statement**

**First : The simple formula for the conditional if statement and its form (one option):**

```
if (condition)
Statement
end
```

The program is stored in (m-file).

Example // Write a program in MATLAB to verify a password using a conditional if statement

```
>> clear;
>>clc;
>> y = input (“enter the password”)
>>  if   y = 5 3 3 8
>> disp (“the password is right “)
>> end
```

Example // Write a program in MATLAB to calculate the value of (y) using a conditional (if) statement

```
>> clear;
>>clc;
>> x=input('enter the value of x')
>> if x>= -3
>> y=x^2+sqrt(x+9);
>> Disp(y)
>> end
```

**Second: The complete formula of the conditional if statement (two options) or more and its formula**

```
if (condition)
Statement
else
Statement
end
```

Example //: Write a program in MATLAB to verify the validity of a password using a complete if conditional statement

```
>> clear;
>>clc;
>> z = input (“ enter the password”)
>>  if   z = Ahmad
>> disp (“ the password is right “)
>> else
>> disp (“ the password is worng “)
>> end
```

Example // Write a program in MATLAB to calculate the value of (y).

$$Z = \begin{cases} y > 2 & Z = y^3 + sqrt(y+9) \\ otherwise & Z = y^2 - 6 \end{cases}$$

```
>> clear;
>>clc;
>> x=input (‘enter the value of y’)
>> if x > 2
>> Z=y^3+sqrt(y+9);
```