Mathematics Dep./2nd class

الجمل الشرطية

Conditional statements

The Lecturer
Ohood .F. Alwan

الجمل الشرطية في الماتلاب

وهناك عدة صيغ منها

if statement -1

يوجد ثلاث انواع لجملة if

simple if statement-1

الشكل العام

```
if expression 1
  statement group 1
end
```

التطبيق العملي للنوع الاول

*Editor - C:\Users\hp\Documents\MATLAB\eq11.m

EDITOR | PUBLISH | VIEW

New | Open | Save | Find Files | Compare | Print | Go To | Find | Insert | Comment | Indent | Breakpoints | Run | Run and Advance | Run Section | Advance | Run and Time

FILE | NAVIGATE | EDIT | BREAKPOINTS | RUN

eq1.m | eq22.m | eq11.m*

```
1
2 -     x=input('enter x: ');
3 -     if x>=-3
4 -         y=x^2+sqrt(x+9);
5 -     end
6 -     disp(y)
7
```

script | Ln 7 | Col 1

nested if statement-2

الشكل العام

```
if expression 1
        statement group 1
       if expression 2
         statement group 2
      end
      statement group 3
end
statement group 4
```

التطبيق العملي للنوع الثاني

*Editor - C:\Users\hp\Documents\MATLAB\eq1.m

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FILE | NAVIGATE | EDIT | BREAKPOINTS | RUN

eq1.m* | eq22.m | eq11.m

```
x=input('enter value of x: ');
if x>2
    y=x^2+sqrt(x+9);
else
    y=x^2;
end
disp(y);
```

script | Ln 8 | Col 9

if-else statement -3

الشكل العام

```
if expression 1
statement group 1
else
statement group 2
end
```

التطبيق العملي للنوع الثالث

Editor - C:\Users\hp\Documents\eq22.m

EDITOR | PUBLISH | VIEW

New | Open | Save | Find Files | Compare | Print | Go To | Find | Insert | Comment | Indent | Breakpoints | Run | Run and Advance | Run Section | Advance | Run and Time

FILE | NAVIGATE | EDIT | BREAKPOINTS | RUN

eq1.m | eq22.m | eq11.m

```
x=input('enter value of x: ');
if x>0
    d=x^2+sqrt(x+9);
elseif x==0;
    d=x+1;
else
    d=x^2;

end
disp(d);
```

script | Ln 10 | Col 9

بعض الامثلة الرياضية للأنواع الثلاثة

Q1. Write a MATLAB code which asks for input 'x' to solve and display the result of the following function:

$$y = x^2 + \sqrt{x+9} \qquad x \geq -3$$

Q2. Write a MATLAB code which asks for input 'g' to solve and display the result of the following function:

$$\begin{cases} x^2 + \sqrt{x+9} & x > 2 \\ x^2 & x \leq 2 \end{cases}$$

Q3. Write a MATLAB code which asks for input 'd' to solve and display the result of the following function:

$$\begin{cases} x^2 + \sqrt{x+9} & x > 0 \\ x + 1 & x = 0 \\ x^2 & x < 0 \end{cases}$$