الكلية	العلوم
القسم	الرياضيات
المادة باللغة الانجليزية	Programming (MATLAB)
المادة باللغة العربية	البرمجة بلغة (ماتلاب)
المرحلة الدراسية	الثانية
اسم التدريسي	صفوت عبدالقادر حمد
عنوان المحاضرة باللغة الانجليزية	Switch Statements
عنوان المحاضرة باللغة العربية	جملة الحالة (**Case**)
رقم المحاضرة	الخامسة عشر
المصادر والمراجع	MATLAB A Practical Introduction to Programming and Problem Solving
	MATLAB The Language of Technical Computing
	MATLAB numerical computing

University Of Anbar

College Of Science

Math Department

Programing Language (MATLAB)

Lecture 15

Switch Statements

By:

Safwat A. Hamad

For the 2nd stage Math Department

1. The Switch Statement

A ***switch*** statement can often be used in place of a nested ***if-else*** or an if statement with many ***elseif*** clauses. ***Switch*** statements are used when an expression is tested to see whether it is equal to one of several possible values.

The general form of the switch statement is:

```
switch switch_expression
   case caseexp1
     action1
   case caseexp2
    action2
   case caseexp3
    action3
% etc: there can be many of these
otherwise
   action n
end
```

The switch statement starts with the reserved word switch and ends with the reserved word end. The switch_expression is compared, in sequence, to the case expressions (caseexp1, caseexp2, etc.). If the value of the switch_expression matches caseexp1, for example, then action1 is executed and the switch statement ends. If the value matches caseexp3, then action3 is executed and, In general, if the value matches caseexpi where ***i*** can be any integer from 1 to n, then action ***i*** is executed. If the value of the *switch_expression* does not match any of the case expressions, the action after the word otherwise is executed (the *n*th action, *action* ***n***) if there is an otherwise (if not, no action is executed). It is not necessary to have an otherwise clause, although it is frequently useful. The *switch_expression* must be either a scalar or a character vector.

For the previous example, the switch statement can be used as follows:

```
switchletgrade.m
```

```
% First, error-check
if quiz < 0 || quiz > 10
grade = 'X';
else
% If here, it is valid so figure out the
% corresponding letter grade using a switch
switch quiz
    case 10
      grade = 'A';
    case 9
      grade = 'A';
    case 8
      grade = 'B';
    case 7
      grade = 'C';
    case 6
      grade = 'D';
    otherwise
      grade = 'F';
    end
end
end
```

As the same action of printing ‘A’ is desired for more than one grade, these can be combined as follows:

```
switch quiz
case {10,9}
    grade = 'A';
case 8
    grade = 'B';
% etc.
```

The curly braces around the case expressions 10 and 9 are necessary.

In this example, we error-checked first using an if-else statement. Then, if the grade was in the valid range, a switch statement was used to find the corresponding letter grade.
