**ITW Experiment 2**

Miqdad Rajkotwala, 50

**AIM:** 1) Implement calculator using switch case in MATLAB

2) Write a program in MATLAB to find the greatest number out of 3 numbers.

**THEORY:**

1) A switch block conditionally executes one set of statements from several choices. Each choice is covered by a case statement.

An evaluated switch expression is a scalar or string.

An evaluated case expression is a scalar, a string or a cell array of scalars or strings.

The switch block tests each case until one of the cases is true. A case is true when −

* For numbers, **eq(case\_expression,switch\_expression)**.
* For strings, **strcmp(case\_expression,switch\_expression)**.
* For objects that support the **eq(case\_expression,switch\_expression)**.
* For a cell array case\_expression, at least one of the elements of the cell array matches switch\_expression, as defined above for numbers, strings and objects.

When a case is true, MATLAB executes the corresponding statements and then exits the switch block.

The **otherwise** block is optional and executes only when no case is true.

Syntax

The syntax of switch statement in MATLAB is − switch <switch\_expression> case <case\_expression> <statements> case <case\_expression> <statements>

...

...

otherwise <statements>

end

**Code:**

a = 1 b = 2 symbol = '+'

switch(symbol) case '+' fprintf('%d',a+b); case '-' fprintf('%d',a-b); case '\*' fprintf('%d',a\*b); case '/' fprintf('%d',a/b); otherwise fprintf('Use a valid symbol'); end

**Output**:





2) An **if** statement can be followed by one (or more) optional **elseif...** and an **else** statement, which is very useful to test various conditions.

When using if... elseif...else statements, there are few points to keep in mind −

* An if can have zero or one else's and it must come after any elseif's.
* An if can have zero to many elseif's and they must come before the else.
* Once an else if succeeds, none of the remaining elseif's or else's will be tested. **Syntax** if <expression 1>

% Executes when the expression 1 is true

<statement(s)>

elseif <expression 2>

% Executes when the boolean expression 2 is true

<statement(s)>

Elseif <expression 3>

% Executes when the boolean expression 3 is true

<statement(s)>

else

% executes when the none of the above condition is true

<statement(s)>

End

**Code:**

a = 3 b = 4

c = 5 if a>b && a>c

fprintf('The greatest number is a = %d',a); elseif b>a && b>c

fprintf('The greatest number is b = %d',b); else

fprintf('The greatest number is c = %d',c); end

**Output:**

