

IF SELECTION

Toby Sanders (sandertl@mailbox.sc.edu)
Department of Mathematics

ACTIVITYif selection:

- If there are only two cases to consider, then the general form of the **if** statement is:

```
if ( condition )  
    ...MATLAB commands # 1  
else  
    ...MATLAB commands # 2  
end
```

If “condition” is true, “MATLAB commands # 1” will be executed; if “condition” is false, “MATLAB commands # 2” will be executed.

- If there are three or more cases to consider, then the general form of the **if** statement is:

```
if ( condition # 1)  
    ...MATLAB commands # 1  
elseif ( condition # 2 )  
    ...MATLAB commands # 2  
elseif ( condition # 3 )  
    ...MATLAB commands # 3  
end
```

Examples of conditions:

$a < b$	$a > b$	$a == b$	$a \leq b$	$a \geq b$	$a \neq b$
	$(a \leq b \ \&\& \ a \neq b)$		$(a < b \ \ a == b)$		

Example if statement:

```
>> x = 2;
>> y = 3;
>> if (y < x)
    disp('x is greater than y. ');
else
    disp('x is less than y. ');
end
```

Modify *mydot.m* to check if the dimensions of the two vectors match:

```
% This function computes the dot product of two vectors
% of the same dimension.
% Input: row vectors u and v; Output: scalar d.

function d = mydot(u, v)
    [m,n] = size(u);    % size(u) returns the dimensions of u
    [s,t] = size(v);    % check dimensions
    if(n == t)
        d = 0;          % initialize d
        for i = 1:1:n
            d = d + u(i)*v(i);
        end
    else
        disp('Error: mydot takes two vectors of the same dimension. ');
        return;
    end
end
```