

# MATLAB - RELATIONAL OPERATIONS

[http://www.tutorialspoint.com/matlab/matlab\\_relational\\_operators.htm](http://www.tutorialspoint.com/matlab/matlab_relational_operators.htm)

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Relational operators can also work on both scalar and non-scalar data. Relational operators for arrays perform element-by-element comparisons between two arrays and return a logical array of the same size, with elements set to logical 1 *true* where the relation is true and elements set to logical 0 *false* where it is not.

The following table shows the relational operators –

Operator	Description
<	Less than
>=	Less than or equal to
>	Greater than
>=	Greater than or equal to
==	Equal to
~=	Not equal to

## Example

Create a script file and type the following code –

```
a = 100;  
b = 200;  
if (a >= b)  
    max = a  
else  
    max = b  
end
```

When you run the file, it produces following result –

```
max = 200
```

Apart from the above-mentioned relational operators, MATLAB provides the following commands/functions used for the same purpose –

Function	Description
eqa, b	Tests whether a is equal to b
gea, b	Tests whether a is greater than or equal to b
gta, b	Tests whether a is greater than b
lea, b	Tests whether a is less than or equal to b
lta, b	Tests whether a is less than b
nea, b	Tests whether a is not equal to b
isequal	Tests arrays for equality
isequaln	Tests arrays for equality, treating NaN values as equal

## Example

Create a script file and type the following code –

```
% comparing two values
a = 100;
b = 200;
if (ge(a,b))
max = a
else
max = b
end
% comparing two different values
a = 340;
b = 520;
if (le(a, b))
disp(' a is either less than or equal to b')
else
disp(' a is greater than b')
end
```

When you run the file, it produces the following result –

```
max = 200
a is either less than or equal to b
Loading [MathJax]/jax/output/HTML-CSS/fonts/TeX/fontdata.js
```