

The confluence with the paper with

MATLAB. So in this particular

chapter, new chapter that

we are going to learn about

relational and logical operators.

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With our plan will be as follows.

We learn about relational and logical

operators, and finally at the end

of the movie The student will be

able to use relational operators

within the functional script file,

use conditional operators

within a script or function.

Not relational operators.

What the relational operators.

They're used to compare 2 numbers,

or we call.

It operates by determining whether

comparing the statement example

6 less than is true or false.

OK, so that is what I'm going to say.

Operator will do now if

the statement is true,

it is assigned value of 1.

If this statement is false,

it is assigned a value of 0.

Relating operators used as arithmetic.

They're used as arithmetic operators

with a mathematical operation.

Explanation as well.

Now the result can be

used in other operations,

and together with other network commands,

example if.

To control the flow of a program

in the if statement, we can use them.

Now we have two numbers are compared.

The result is one that was equal

to the comparison according to the

relation operation True and it is,

you know,

we call it logical faults

of the comparison is false.

If two scalars are compared,

the result is a scalar that is one or zero.

There's two arrays are compared,

and only both the arrays

have to be of the same size.

The comparison is done element by element,

and the result is a logical array

of the same size with zeros and

ones according to the outcome

of comparison at each address.

Or you can say it is pollution in the area,

so these are the relation

operators in MATLAB.

That is,

we have the less than the greater than

or less than equal to greater than,

equal to or equal equal to

and then not equal to OK.

Because some of the relational

operators in MATLAB remember not,

we use the tilde operator not

equal to remaining equal to.

We'll design because already single,

equal to sign has been given

to the assignment operator,

so these are some examples

of relational operators,

so first we'll say is X greater than zero?

Yes, X is greater than sorry,

is greater than zero.

Yes, it is greater than zero, so it is.

Do we assign the logical value one?

Is this true value of 1?

Next this X less than three.

Low false,

so that means we get a value of 0 to X.

Next is another.

We can combine the arithmetic

values with the relation operators.

Then we can multiply. What is the?

Excluded flow so six greater than 0.

It's true,

so it will get value 10 less than true.

Yes,

we will get value one and both

also $1 + 1$ will come two and

that will get submitted from 5.

So we get a value 3.

Next we can do it with two arrays as well.

So we are going to compare two

different arrays so element

element so is 1 equal to do false

is equal to 1 false this 3 equal to three.

Yes. So we got one this show.

Compared to 1405, all of them are not

well segregated 000 only one place

because $1 + 3$ was equal to three.

So you can check OK C greater than equal

to D element element to the comparison,

and you find out that we're going

to get this. We're going to get

0111012 is greater than 1/3 greater than,

equal to three,

and four is greater minus one.

So we get in fact the first element

that is path is not greater than two.

And the second last that is 0 is not

greater than six, so we're getting 00.

Similarly, we can say see less than equal to.

Again, one is less than two.

Yes, true is 2 less than 120,

then three less than equal to the

yes one is 4 less than minus 1400,

less than $6 + 1$ and is 5 greater than zero.

So you get value of 0.

So these are some condition operators.

It does.

What it does is it examined for

statements and produces a result.

It's either true or false

that one or zero operator.

So there are three basic ones,

the add or other and the not so

simple for add or and the not.

So we could tilt for the not the single line.

Or we say that is for your or

and operator and operator,

so it operates the end and are

going to operate 2 operands.

That is $X \& \& Y$.

In this case both the hand and on

only the not always operates on a.

Now it's the end if both operands

are only when both operands are true,

we are going to get the answer will be 1,

otherwise the result is going to be

false or zero, so both of them are $X \& \& Y$,

have to be true, then we're going to get.

We get it as one result as true 1.

Otherwise, either one of them is 0.

Can you get Fox and for all

both opponents have to be one?

Or even if one of them are true or getting 1,

the output is going to be one.

The only time we're going to get the

output to be one would be 0 is both

of them are both faults and the not

what it does is it's going to work on

a single operator already get Apple

is that it gives the opposite of operand.

Suppose if the opposite of your ex is true,

it will give it false,

is false and you will get as.

So logical operator numbers are

as operations are non 0 number

is true and zero is considered.

So remember it's a negative number.

That doesn't mean it's false.

Nonnegative nonzero number is 2.

Only zero is fault.

Now logical operators like least

operators are used as arithmetic

or we can mathematical expression.

Now the result can be used in

other medical expression areas.

Comments now logical operators

like some operators can be used

with scalars and arrays.

No logical operation.

That and the north can have both

operators scalars earlier or one

array and one you can have it as a

scalar value like both the scalar.

The result is a scalar that is

one both arrays.

Then they must be of the same set.

That is very important and tell

you to do the

comparison position by.

And only the logical not impact

the operation has one opponent.

So whenever it is used it is

scalar output is going to be a

scalar 01 when it is in the array,

the outcome is going to be the same

charge of the particular array position

where there has not 0 numbers and zeros.

Yes. Zero, so yeah,

we take a look at some examples.

In the first example 8 or 0.

So it is it too.

It's a true value, whether it's not zero,

so it's like one, or in with zero.

So we have seen one of the one of

the operators, one for all operator.

We're going to get.

X will get the value of 1,

then not 25. Not 25,

so 25 is a true value when we're doing not.

So what would happen?

It is not true.

Is going to become false and false is 0,

so we're going to get the answer as.

Next, G is equal to 0.

You can use it in a expression as well,

so 5 plus.

So again whatever is there within the
brackets will get executed first in the
parenthesis, then the outer parenthesis.

All we got it bracket,

so here 6 N 0, so six and zero.

So what would happen?

One of is already 060 is this

value will get 00 or 411 of them?

Popular number so one and

not of and not one not one.

It's already 1 even taken not of it,

so it is going to be considered so 00 here.

The one that is zero or so remaining.

This is 000 plus 1 + 0 will

get it as one and 5 + 1.

We'll get the value of G to be 6.

Next.

We can do it with arrays as well,

so you're going to declare define two

array and so element element one and two.

Now both are nonzero values,

one they get two and one non 033.

Both are non 0 so you get 1/4.

Minus one, no problem.

Again,

101 of the element is 0,

so definitely it will be 0.

We don't look at what is there.

The element here.

The second array has the last argument is 0.

So here because one of the operands is 0,

so you get it as zero.

Now see you can do it as C or D as

well would happen if you look at the.

All of them at one stage, like 1234,

so one of the element is definitely one.

So first of position it is 1.

Now zero is there at one place,

no problem, but the other has six,

so it's a nonzero value,

so we'll get one of them is true.

So EBIT one and five you already with zero,

so you get one of the non 0.

So we are going to get that one if
you do OK we use the not operator.

You can see minus five and
then the not operator.

So whatever they get is in the.

And this will get executed first,
so we will first do the subtraction
of all the values and then
take the north of all of them.

So if this is true,
the value it will become zero.

So only one place,

I think because there's five.

When we reduce our fraction is $5 - 5$
will become zero over there reminding
all of them will either be a negative
value or will be a positive value,
but they will not be 05 only this five
will get separated in this scalar
value 5 that time 0 and that's why.

No,

this relational condition operators

there's an order of precedence

wherever we use it in an expression.

How do they get executed now?

If using parenthesis,

the parenthesis will always get the

higher parenthesis or brackets,

and if you're using multiple parenthesis,

the one the inner parenthesis always

always gets the higher priority

of higher has higher precedence.

Next, if there are more brackets,

then we'll look at these operators.

The exponent exponent,

which operators it has an

externality next the logical not,

then our multiplication and division

which are there after that comes the

addition and subtraction operators.

Then come the relational

operators so all of them are.

If there are two or more

relational operators online.

All the relational operators

have the same priority.

And then the logical and primary the logical.

So I've shown the arrow that is,

it goes from high to low,

so they're the same level.

Nothing to worry, wrongly goes on,

it goes from left to right.

So because some example using both

conditional and relational operator.

So let us see variables equal

to minus three is equal to 8.

And here we are checking equality.

Now this inequality is correct.

Mathematically that is OK.

But however this turns out to be the

reason being is that it always goes both.

The relational operators

will go from left to right.

So check OK minus 9 less than.

Is it less than minus three true 5,

so it is 1.

Now one is less than minus two, no?

So it is going to give you answers.

Similarly, second expression.

This is a mathematical

mathematically correct statement,

but what will happen over here?

First,

your relational operators have more

priority than the logical and,

so both the relations will

get executed first.

So we manage this less than minus three.

True, so it is one is again

minus three less than minus 21.

OK, and finally in both of our one

and with one you are going to get the

answer is 1 next another statement here

be greater than four with brackets?

What is in brackets will get first.

Yes, it's a true statement,

but then there's not over there,

so you become more true or will

become and so will become false,

which is 0 if you're not, use the bracket.

What will happen over here?

So first this not be will get it.

So what is B is 8 so K it is a true value.

So what is not true not true

default so zero now is zero greater

than 40 is not greater than four.

So the answer will turn out to be 0 next

if there are there are multiple parallel.

This is the.

First, be greater than equal to four yes.

Is it greater than $4 + 1$?

Is that is minus $3 - 2$?

Yes two. So both are one,

so one or with one is 1.

But then there's a lot outset,

so not one is going to give us zero

and the last fellow is this big.

Greater than two is 8 greater than two.

Yes one. What take a lot of it?

Lot of 1 because they're not needed zero but

or it is the relational which is the real.

Also get executed before the war, in fact.

So here is minus 3 less than minus two.

Yes, one there was one here.

There's a one year.

There's one, but there's not not have

more priority than your this fellow,

which is so not what is going to happen.

Not of this will become who we

are is going to be this one.

You get 00 or even one to

get the answer to it.

So this is the reference book,

thank you.