Relational Operators:

==	equal to	~=	not equal to
<	less than	>	greater than
<=	less than or equal to	>=	greater than or equal to

Logical Operators

&	AND
|	OR
~	NOT

Conditionals: "if"

If statements allow us to execute different commands depending on the truth or falsity of some logical tests. The general form of the statement is

Example: *This code is used to assign letter grades to students:*

```
if points >= 90
    gradepoints = 'A';
elseif points >= 80 & points < 90
    gradepoints = 'B';
elseif points >= 70 & points < 80
    gradepoints = 'C';
elseif points >= 60 & points < 70
    gradepoints = 'D';
else
    gradepoints = 'E';
end
```

Loops: "for"

For loops are used when we want to repeat a segment of code for a predetermined number of times.

Example: *This code computes the result of the summation* $\sum_{x=1}^{20} x$

```
sum=0;
for x=1:1:20
    sum=sum+x;
end
```

Loops: "while"

'While loops' are used when we want to repeat a segment of a code until a condition is satisfied.

Example: *This code calculates the maximum value of n satisfying:*

$1 + 2 + 3 + \ldots + n \leq 2826$.

```
sum=0;
n=1;
while sum<=2826
    sum=sum+n
    n=n+1;
end
```