Lecture 02
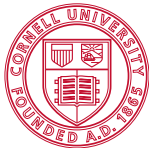
Operators, Expressions

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CMS Any new students?

HW0 Missing submissions

HW1 Will be released tomorrow

QZ First in-class quiz today

Operators

Arithmetic Operators

+   -   *   /

Relational Operators

<   >   <=   >=   ==   ~=

Logical Operators

& | ~

+ Addition: a + b

- Subtraction: a - b

* Multiplication: a * b

/ Division: a/b

+ Unary Plus: +a

- Unary Minus: -a

There are arithmetic operators for arrays [later]

Operators

Arithmetic Operators

+   −   *   /

Relational Operators

<   >   <=   >=   ==   ˜ =

Logical Operators

& | ˜

$<$ Smaller than: $a < b$

$>$ Greater than: $a > b$

$<=$ Smaller or equal: $a <= b$

$>=$ Greater or equal: $a >= b$

$==$ Equality: $a == b$

$\sim=$ Not equal: $a \sim= b$

Operators

Arithmetic Operators
+ - * /

Relational Operators
< > <= >= == ~=

Logical Operators
& | ~

& AND: a & b
| OR: a | b
~ NOT: ~ a

More next week

MATLAB Demo

numbergame.m

```
number = fix(10*rand);

guess  = input('enter a digit: ');

if number == guess
   disp('that is my number!');
else
   if number > guess
      disp('my number is greater');
   else
      disp('my number is smaller');
   end
end
```

MATLAB Demo

quadratic.m

```
function y = quadratic(a,b,c,x)

y = a*x^2 + b*x + c;
```

MATLAB Demo

find_quadratic_roots.m

```matlab
function [r1, r2] = find_quadratic_roots(a,b,c)
% This function computes the roots of a quadratic eqn.

delta = b^2 - 4*a*c;
mid   = -b/(2*a);

r1 = mid + sqrt(delta)/(2*a);
r2 = mid - sqrt(delta)/(2*a);
```