



COMP 150: Basics of Computer Organization

Week 03, Lab 03



Agenda

1. Worksheet
 - a. Do it by hand - trust me, practice helps!
2. ...And now in Python

Arithmetic (math basics)

- “Operator”
 - The thing we’re doing
- “Operands”
 - The things we’re doing the operator *on*
- Order of operations:
 - PEMMDAS
- Left-associated
- Return a number

Op	Definition
+	Add
-	Subtract
*	Multiply
/	Divide (always gives a float)
%	Modulus (remainder)
**	Exponent

Comparators

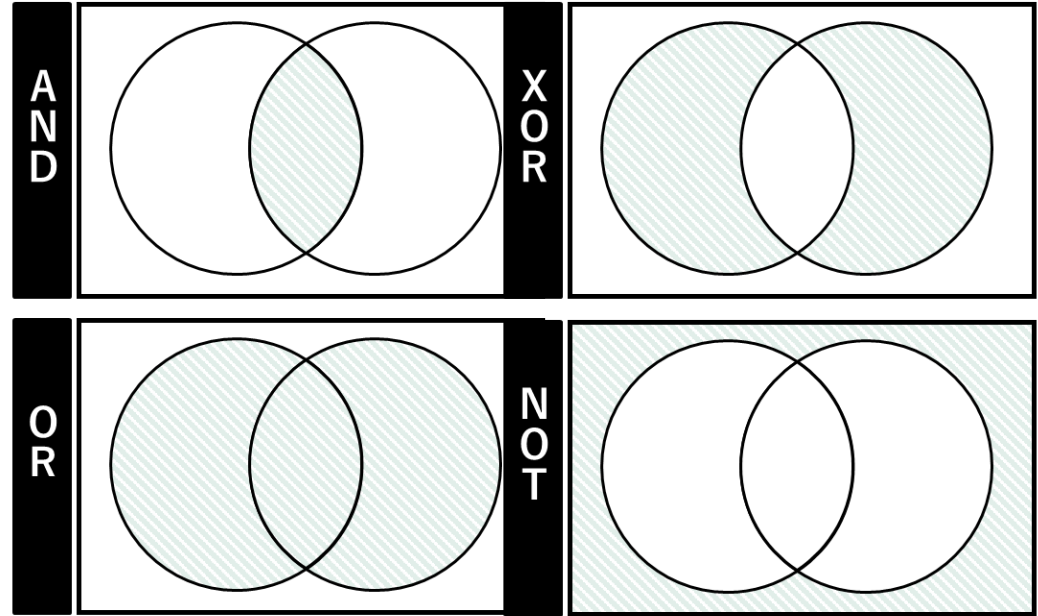
- Return True/False
- Parenthesis *matter*

Op	Meaning
>	Greater than
<	Less than
==	Equal to
!=	Not equal to
>=	Greater than or equal to
<=	Less than or equal to

Boolean Logic

- Return True/False
- True == 1, False == 0

Op	Meaning
and, &	AND (both True)
or,	OR (either is True)
not	NOT
^	XOR (only one is True)



Board examples:

```
a = 5
b = 10
c = -10
d = 10
e = 1
g = 2
h = 0
```

```
t = True
f = False
```

```
a + b
a * b
b ** a
b ** a - c
d / g - e
d / (g - e)
```

```
a > b
b > c
a > b > g
b > a > g
(a > b) > g
(a > b) > c
```

```
h = h
h == h
g >= a
a <= c
d == c
```

```
h == f
e == t
t > f
t >= f
t > g
f > g
```

```
t & t
t | t
t | f
t & f
f & t
f ^ t
t & f | t
t & f | f

t ^ f
t ^ f | f

(not t)
(not f)
(not t) == f
(not f) > 0
```