Cheatography

COMP 202 Cheat Sheet

by daisz via cheatography.com/163328/cs/34214/

binary numbers

tree branching out
jar with balls
clock

changing a variables value

```
x = 5
x = x +1
output: x = 6
```

assigning values to multiple variables

```
x, y, z = 1, 2, 3
print( "x is", x)
print ("y is", y)
print ("z is", z)
x = y = x = 5
print( "x is", x)
print ("y is", y)
print ("z is", z)
```

this is a shortcut

modulus

```
27%10
```

returns 7, remainder of clock arithmetic

properly evaluating equality of floating points

```
x = 1.1+2.2
epsilon = 0.001
print( abs (x- 3.3 )<e psilon)
```

algorithm for base conversion

```
procedure baseexpansion(n,b)
q := n
k := 0
while q =! 0
ak := q mod b
q := q/b
k = k+1
return (ak-1....a 1,a0)
```

in general, given a base b and a decimal number n, repeat the following until the number is 0

divide n by b and prepend the remainder of the division

let the new number be n divided by b, rounded down

the life of an object

creation
manipulation (while it exists)
stops existing when there are no more references to it

swapping values

```
x = 137
y = 42
temp_var = x
x = y
y = temp_var
```

temp_var stores x = 137
then you take x = y, moves both to 42
then define y as temp_var, 137
y = 137
prevents loss of information

input function always returns

a string!

type error

```
print(int('5')*int('3'))
```

can't multiply between two strings
must cast string as int

object references

look up slides...
if a = 5
then a = "cat"
value five is garbage collected

= Is not equality, not commutative

x = 7
7 = x
illegal in pyton

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