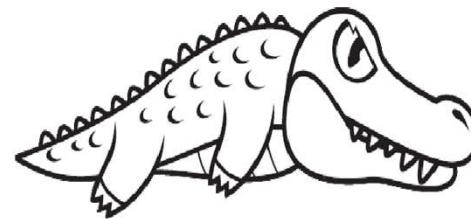
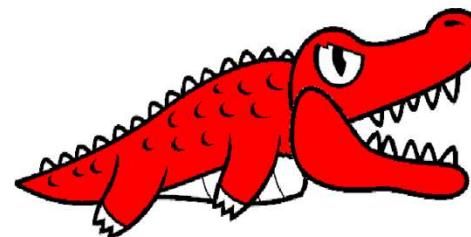


Alligator and Eggs

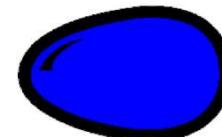
1) old alligators
can die



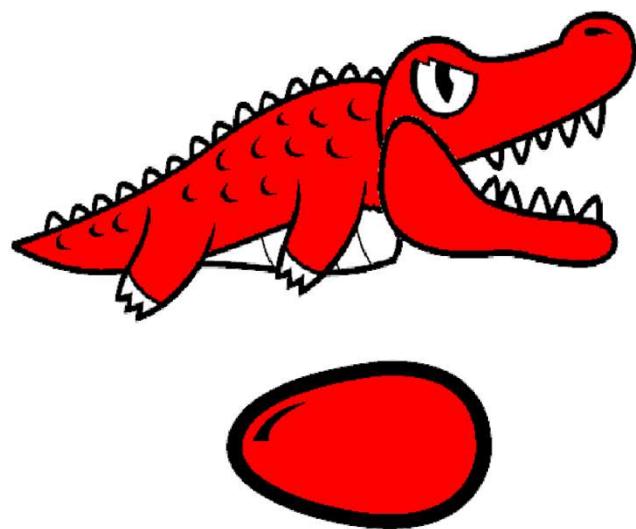
2) hungry alligators
can - eat
- die
- change color



3) eggs
can - hatch
- change color

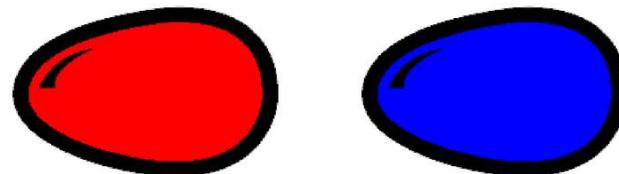
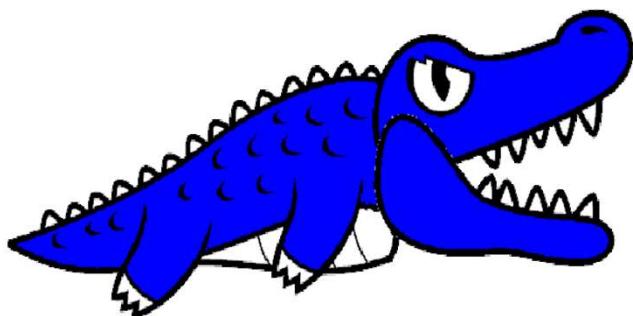
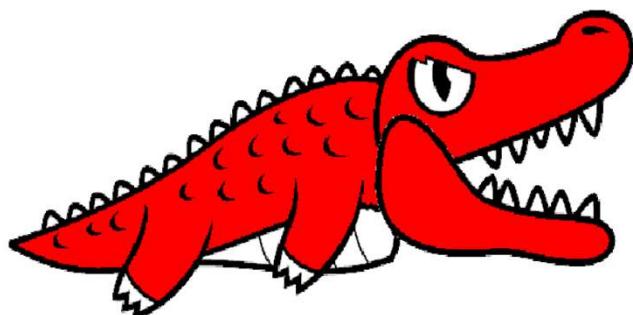


A Family of Alligators



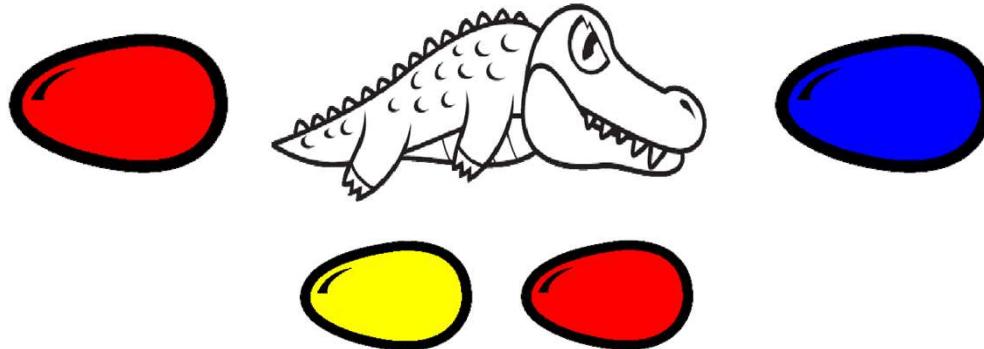
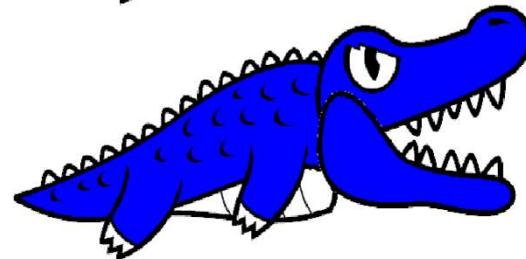
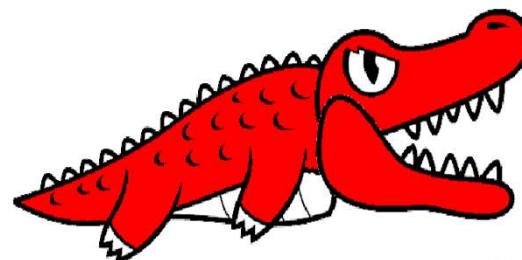
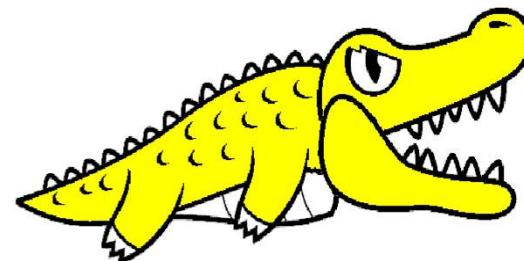
A red alligator
guarding a red egg

Another Family

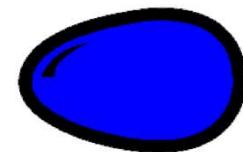
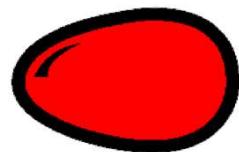
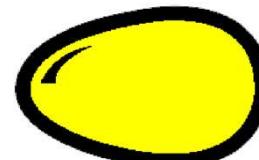
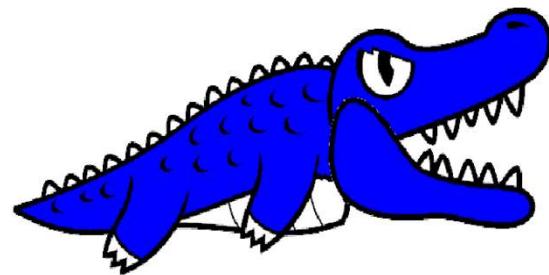
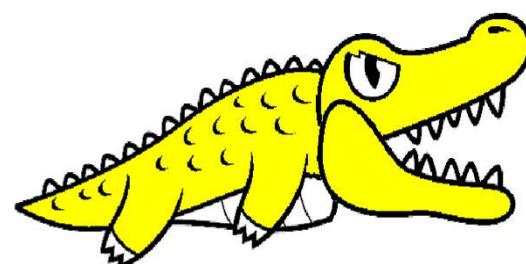
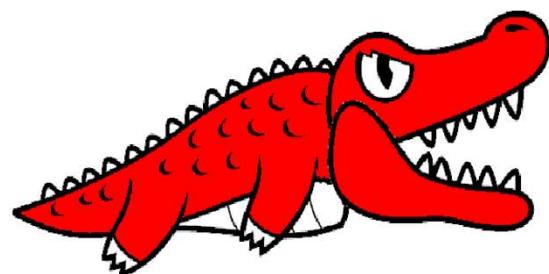


A red and a blue
alligator guarding a
red and a blue egg.

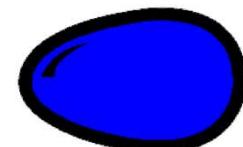
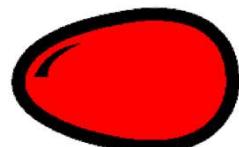
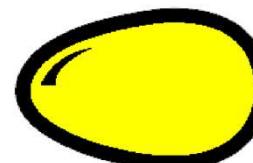
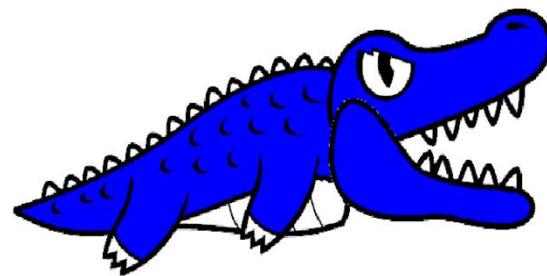
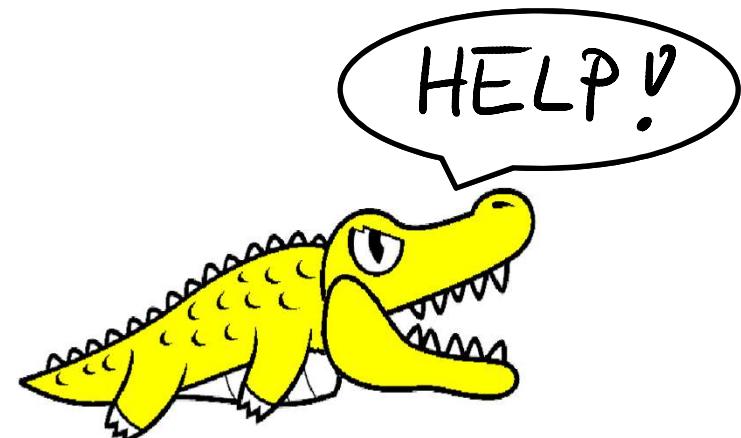
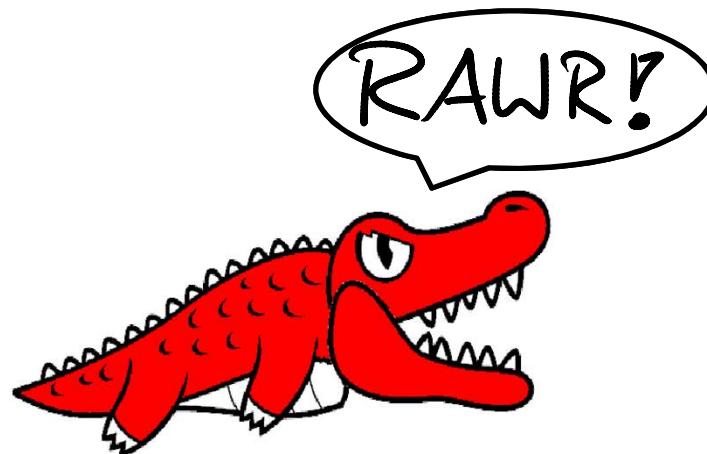
A Huge Family



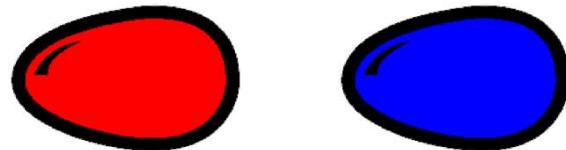
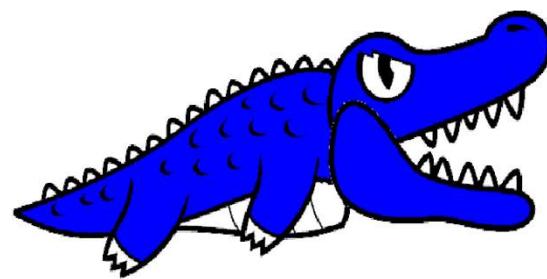
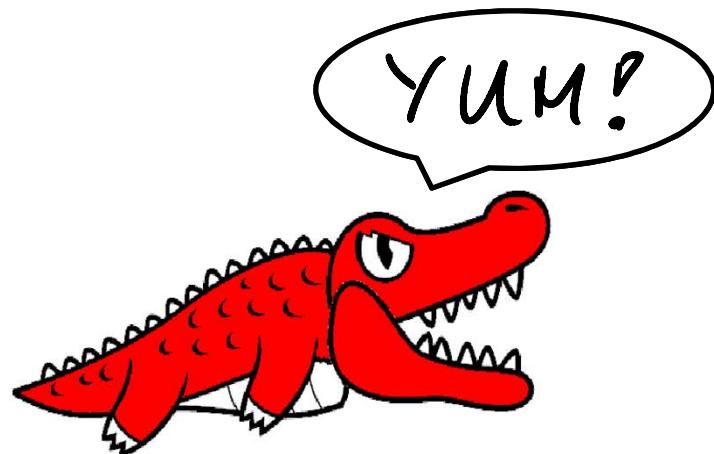
Two Families Side-By-Side



The red alligator sure looks hungry

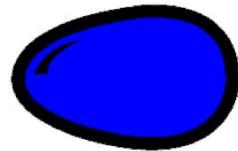
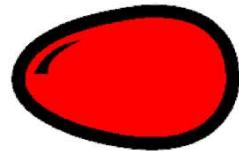
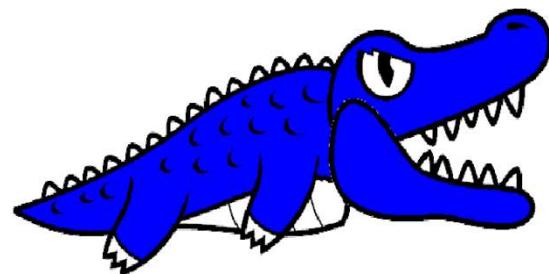
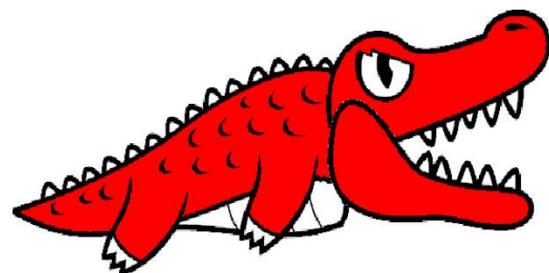


The red alligator sure looks hungry

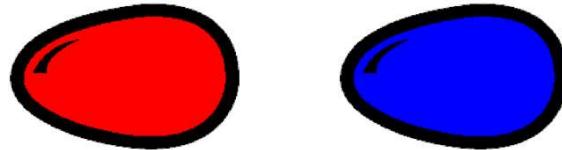
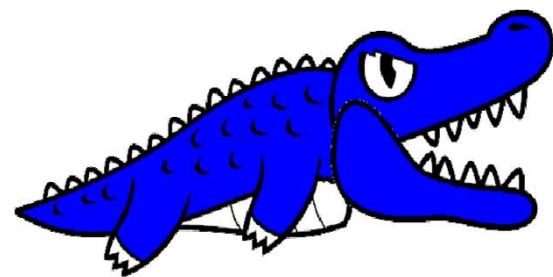


That might have been too much.

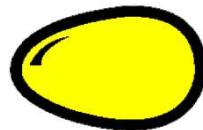
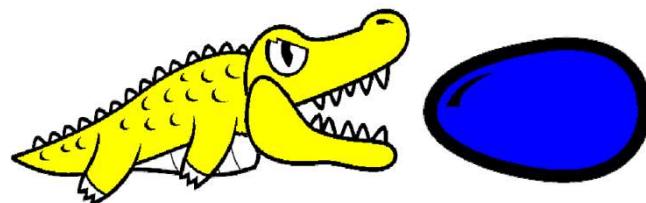
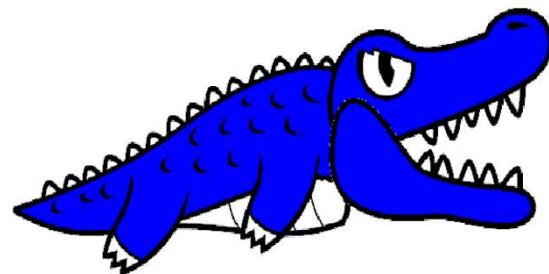
I DON'T
FEEL GOOD



That might have been too much.

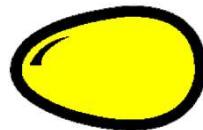
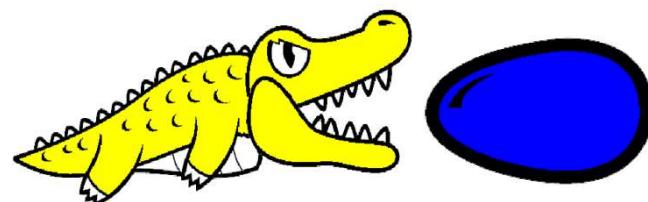
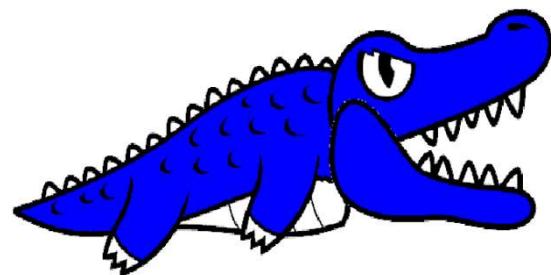


The Miracle of Life

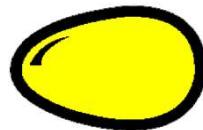
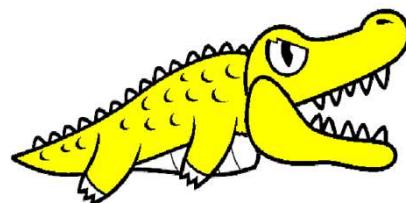
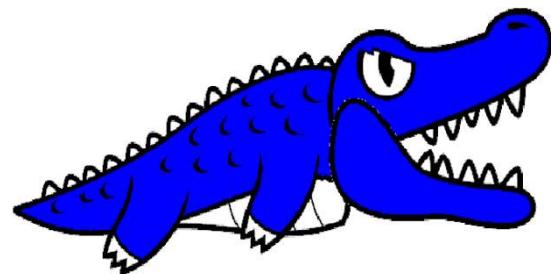


The red egg starts to hatch...
...into exactly what the red
alligator ate.

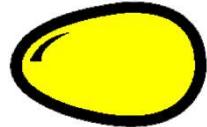
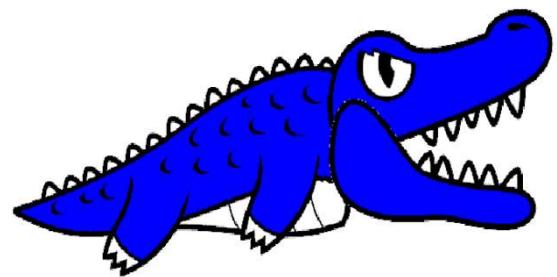
That tasty blue egg ...



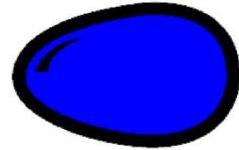
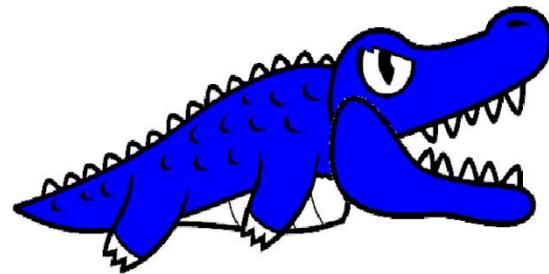
That tasty blue egg ...



... is still too much for poor Alligator .

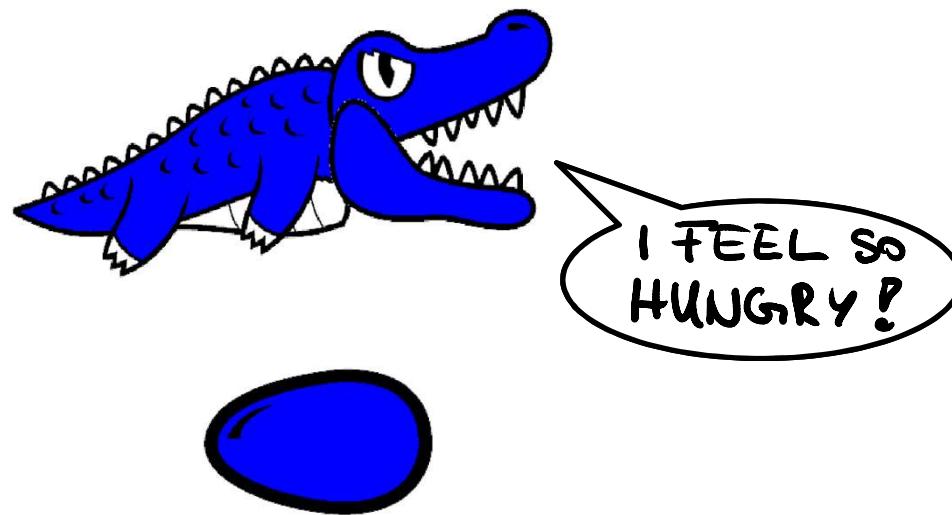


The Cycle of Life continues



Once again, the yellow egg starts to hatch ...
... into exactly what the yellow alligator ate.

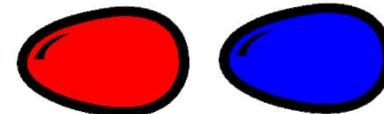
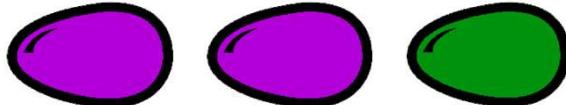
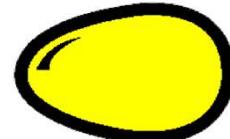
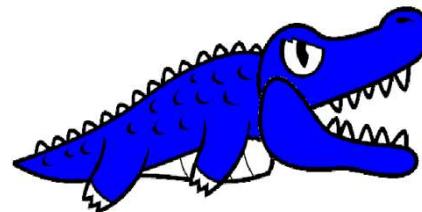
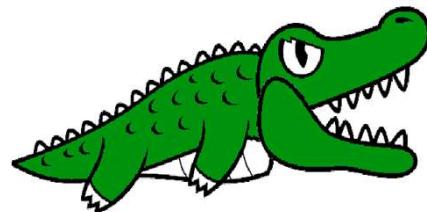
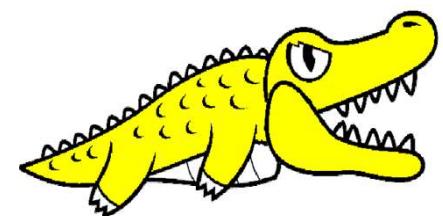
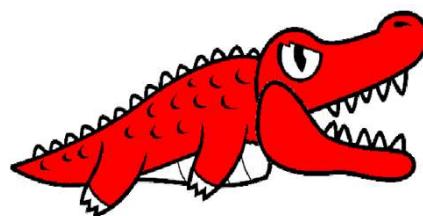
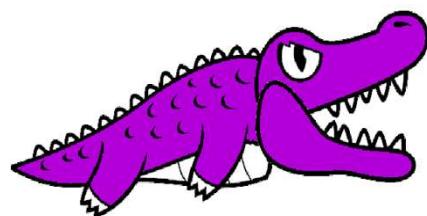
Finally...



... nothing left to eat, so we stop.

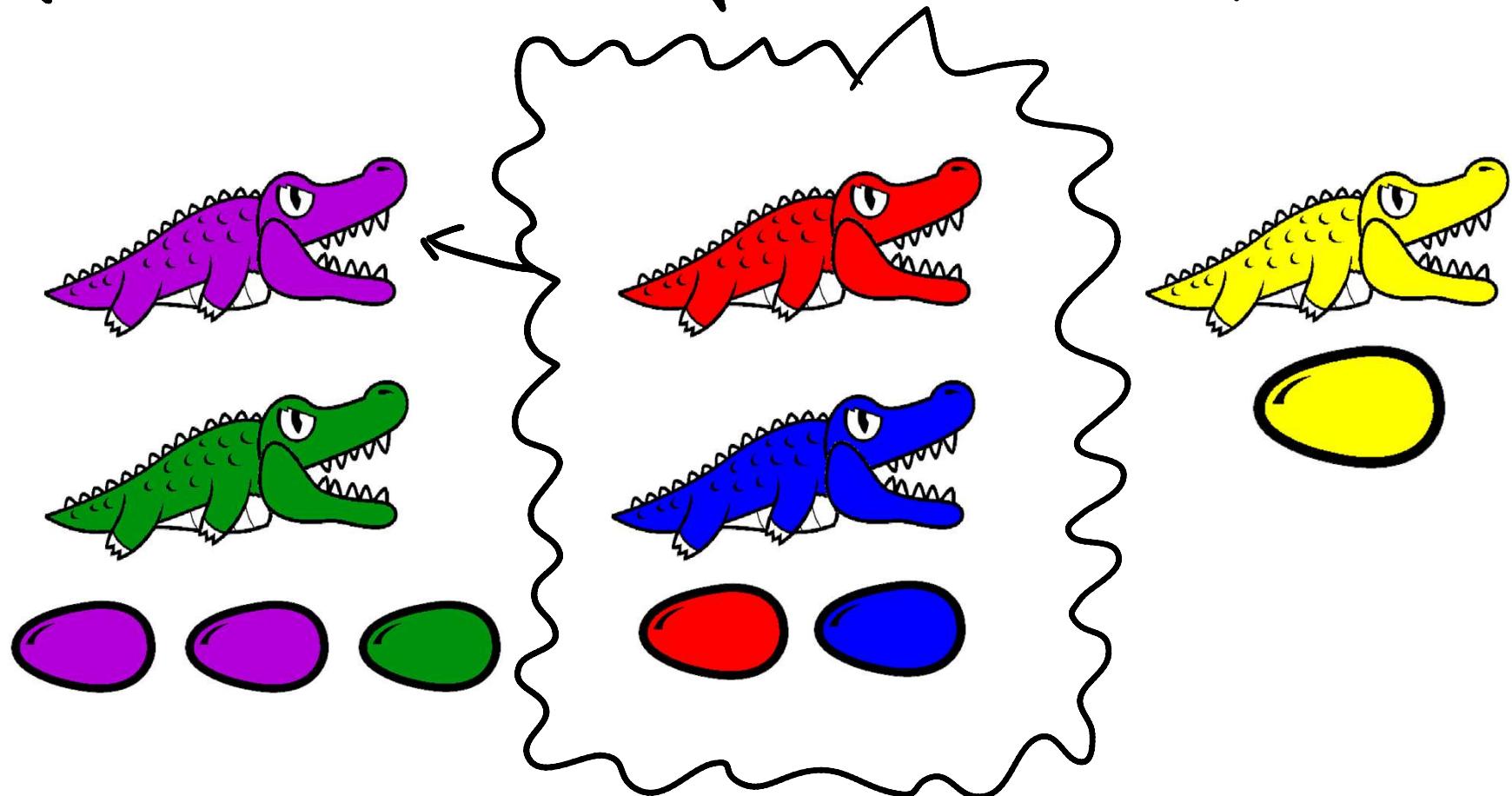
The Eating Rule

If there are some families side-by-side



The Eating Rule

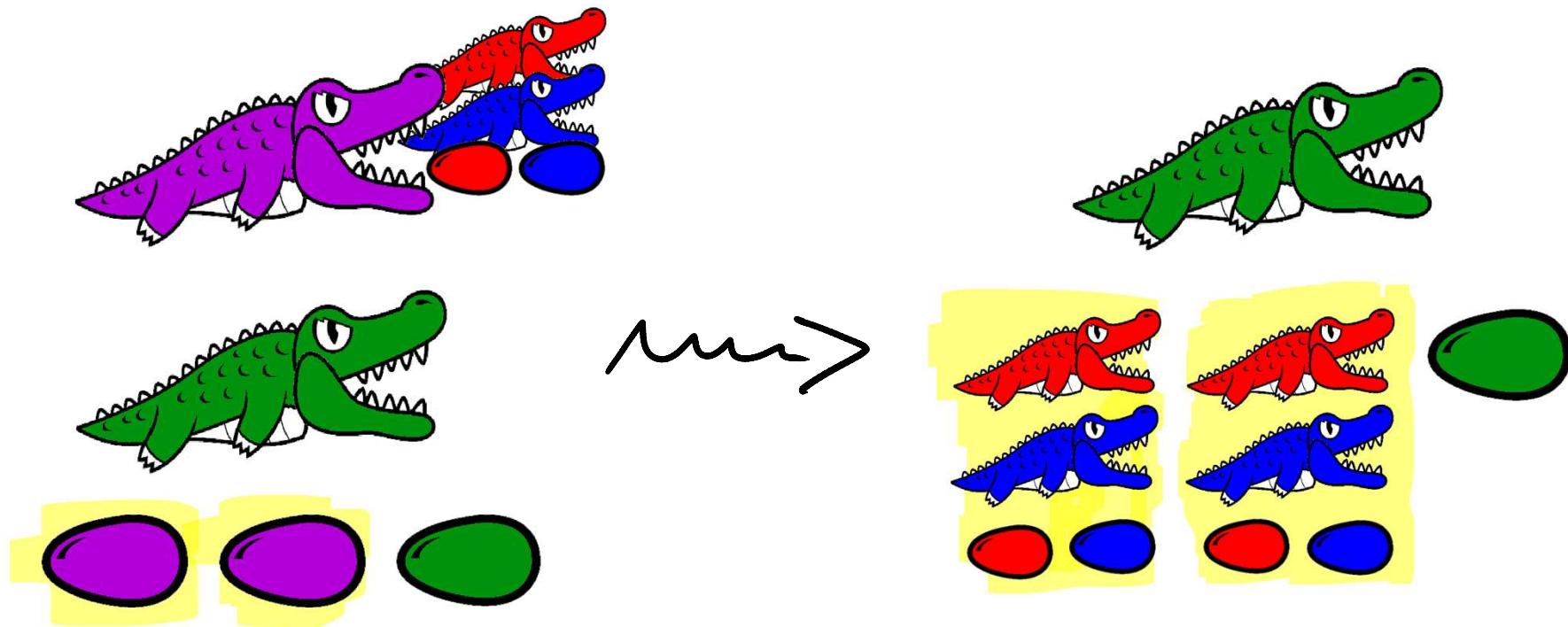
If there are some families side-by-side



the top-left alligator eats the family to the right.

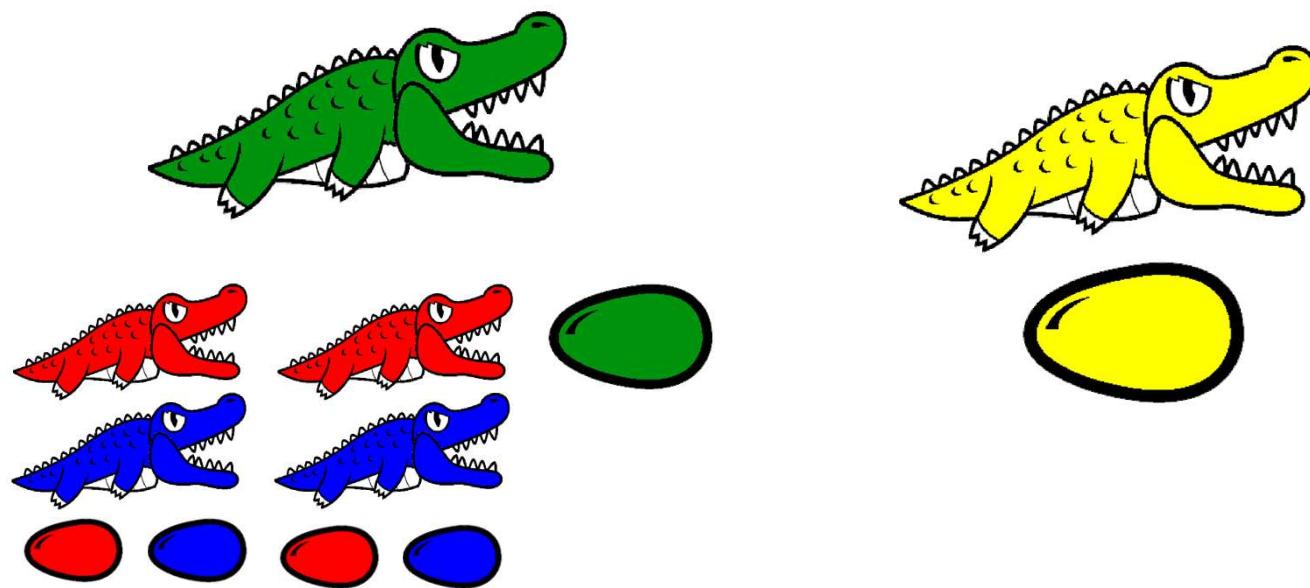
The Eating Rule

The eating alligator dies



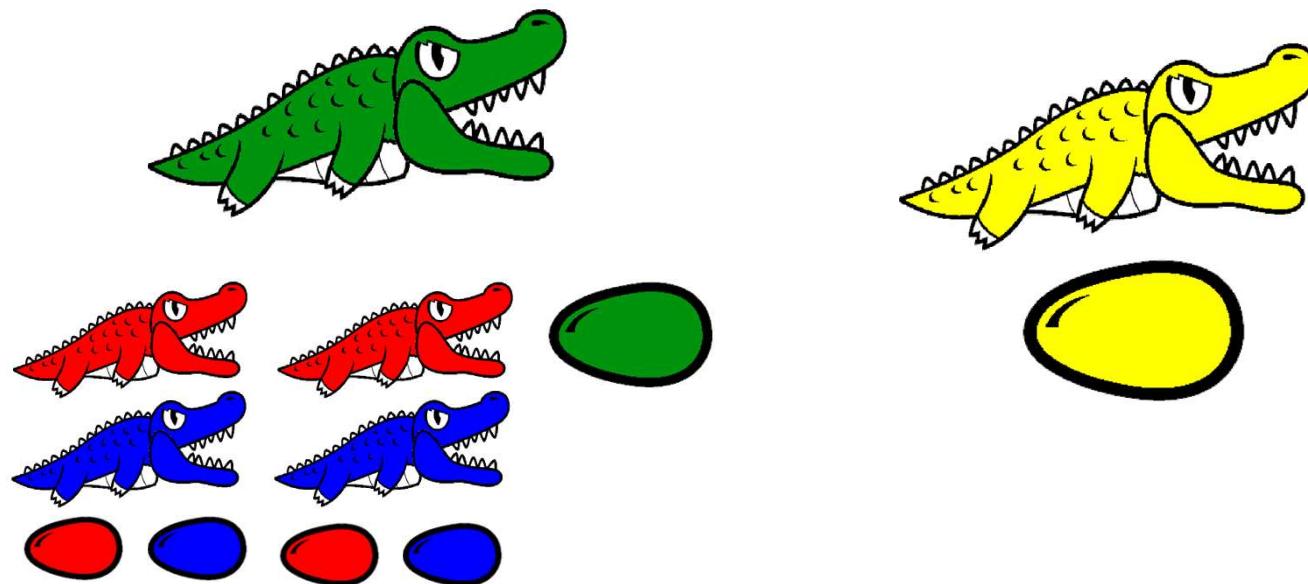
and all eggs of the same color below that alligator
are replaced by the eaten family.

The Eating Rule



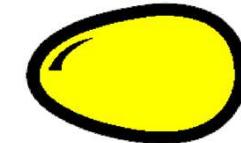
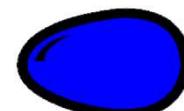
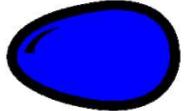
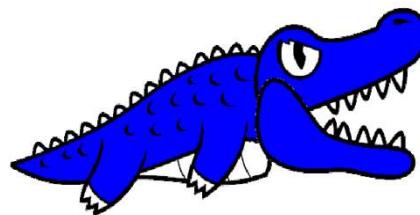
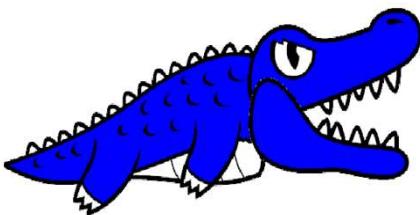
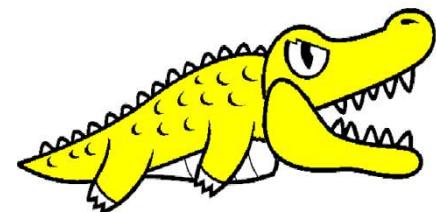
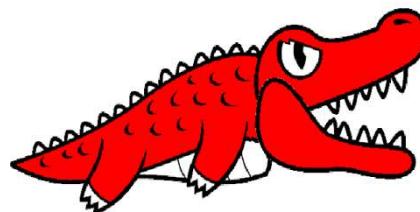
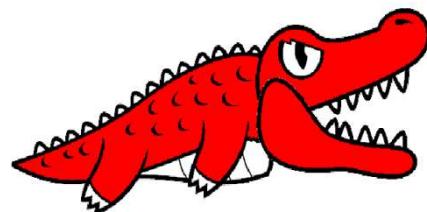
The Eating Rule

Next, the green alligator eats the yellow family.



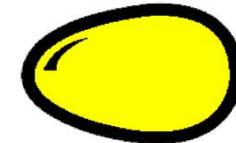
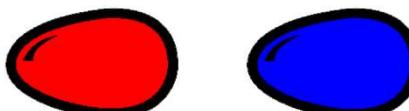
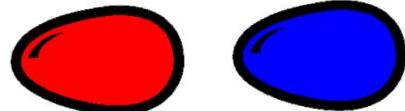
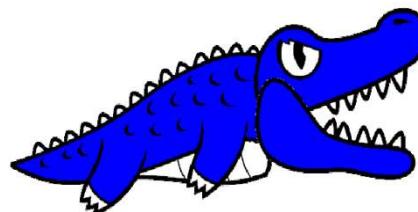
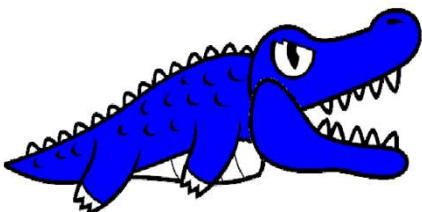
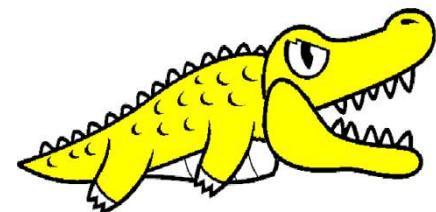
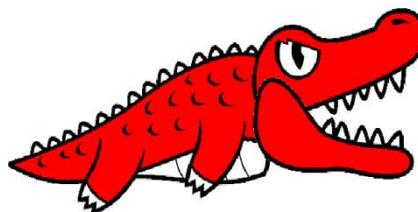
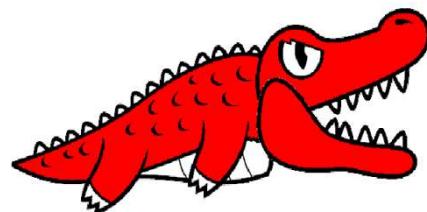
The Eating Rule

Leaving this:



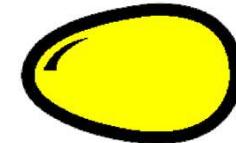
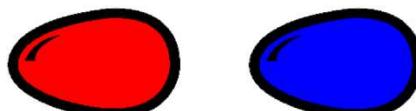
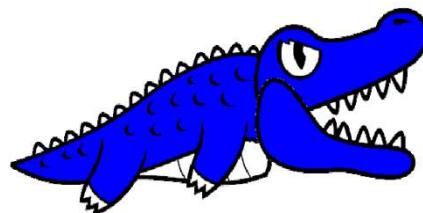
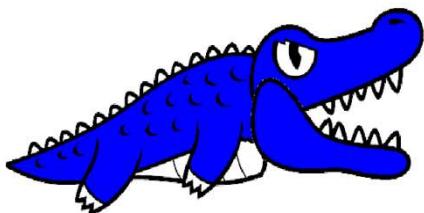
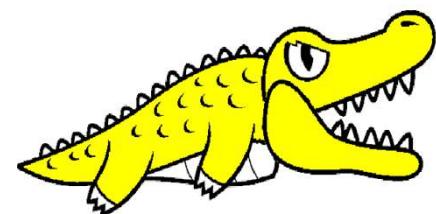
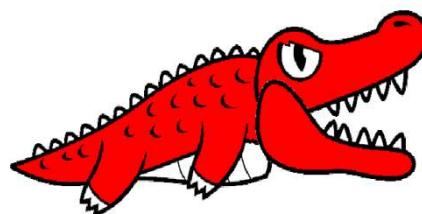
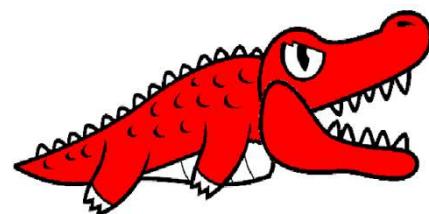
The Eating Rule

Leaving this:



Before we continue, we need to look at the color rule.

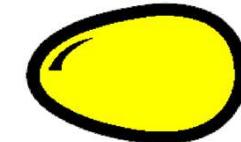
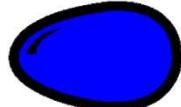
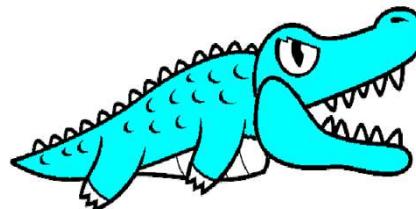
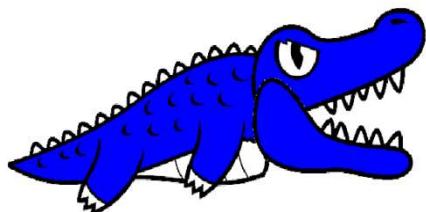
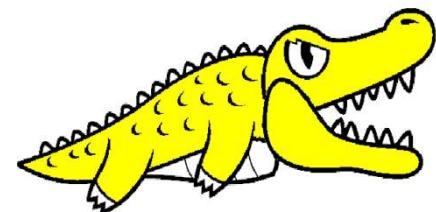
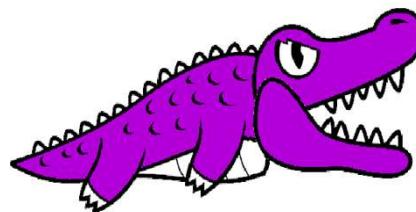
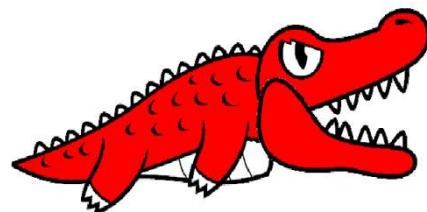
The Color Rule



If an alligator is about to eat a family, and there is a color that appears in both families, we need to change that color in one family.

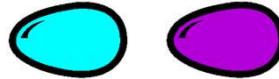
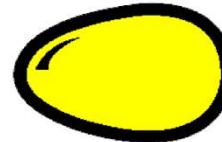
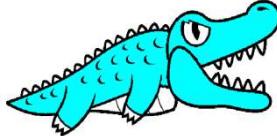
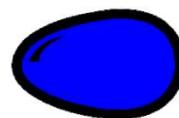
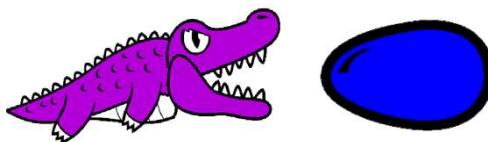
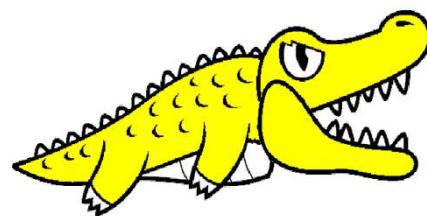
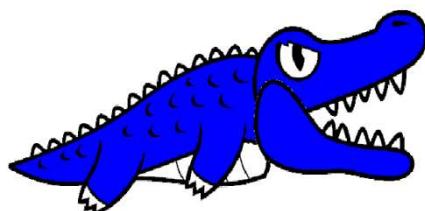
The Color Rule

Like this :

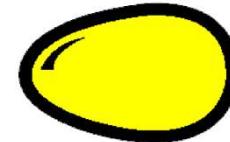
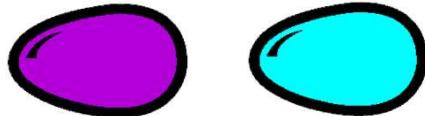
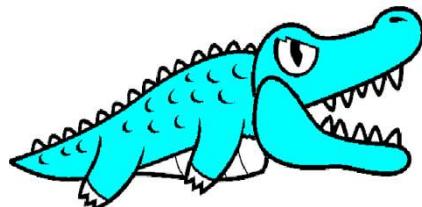
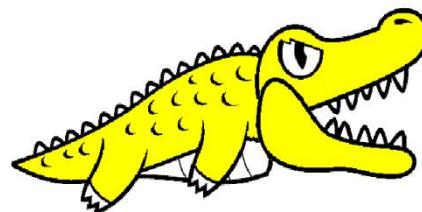
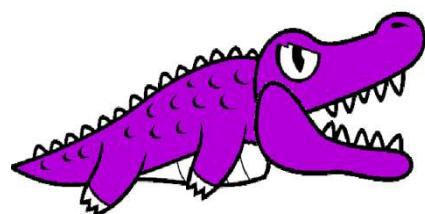


Now we can eat ...

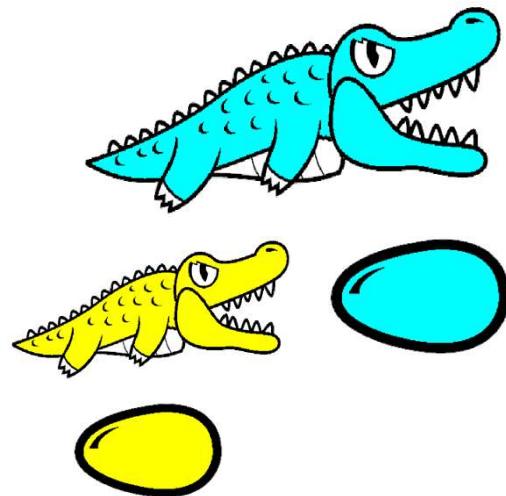
... and eat ...



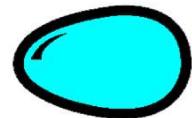
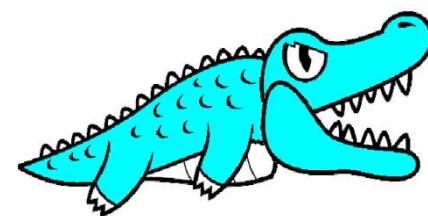
... and eat ...



... and eat !

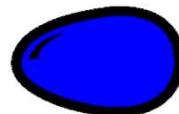
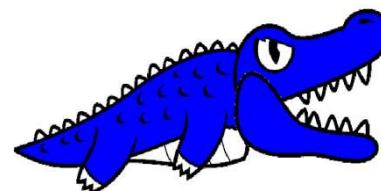
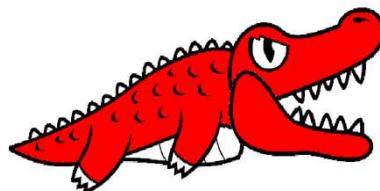
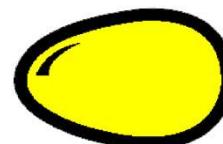
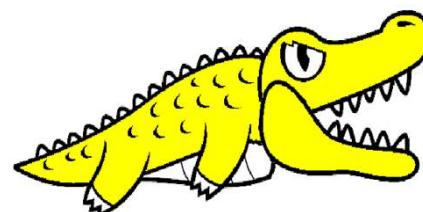
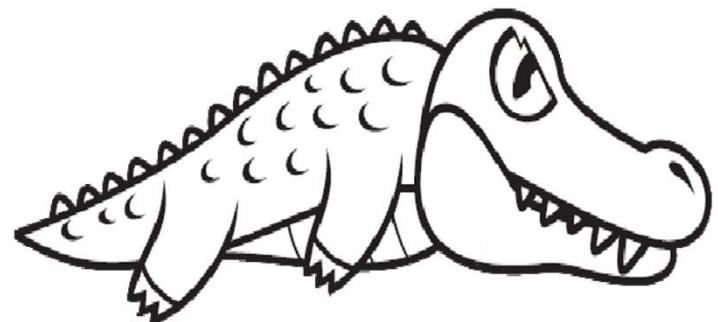


Done !



Old Alligators

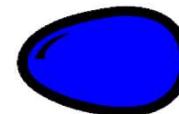
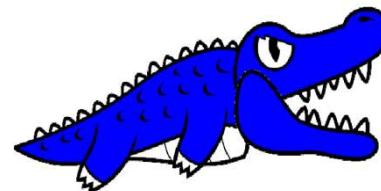
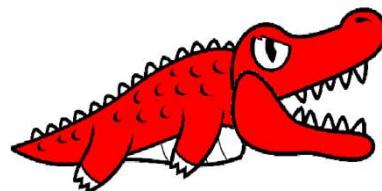
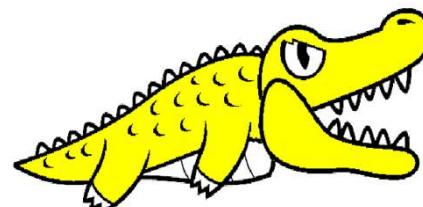
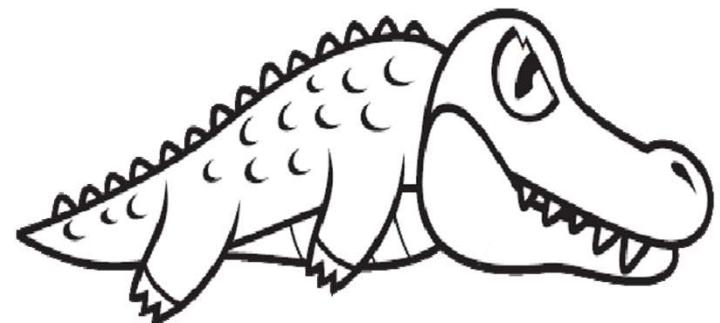
Here is an old alligator that guards two families:



Old alligators are not hungry .

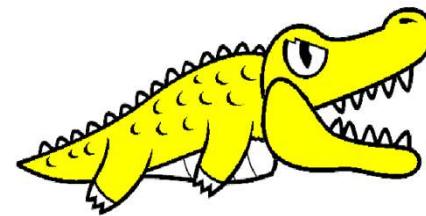
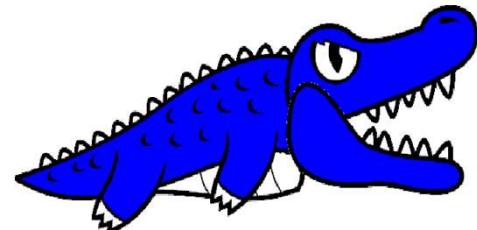
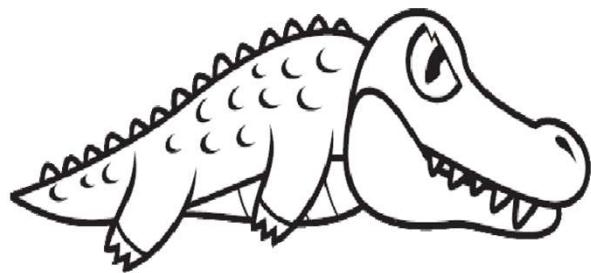
Old Alligators

Here is an old alligator that guards two families:



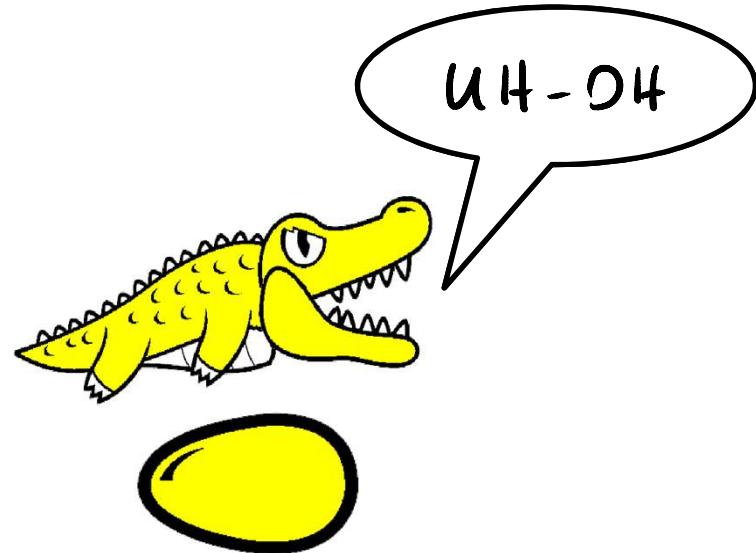
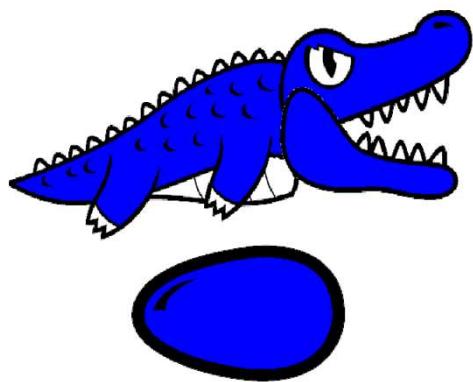
Old alligators are not hungry.

The Old Alligator Rule



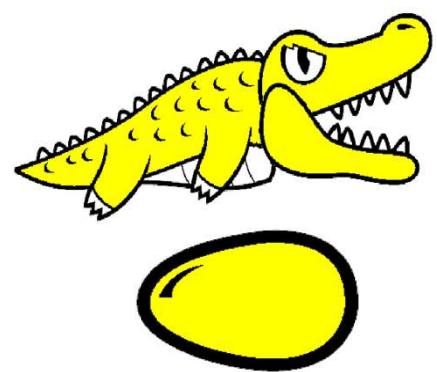
Old alligators die when they
only guard one family.

The Old Alligator Rule



Old alligators die when they
only guard one family.

Done !



Summary

Programming Constructs

- 1) hungry alligators
- 2) eggs
- 3) old alligators

Computation Rules

- 1) eating rule
- 2) color rule
- 3) old alligator rule