

Fuel serialization in an example

FLDemo >> serializeSampleRectangleOn: **aFileStream**

| **aRectangle** **anOrigin** **aCorner** |

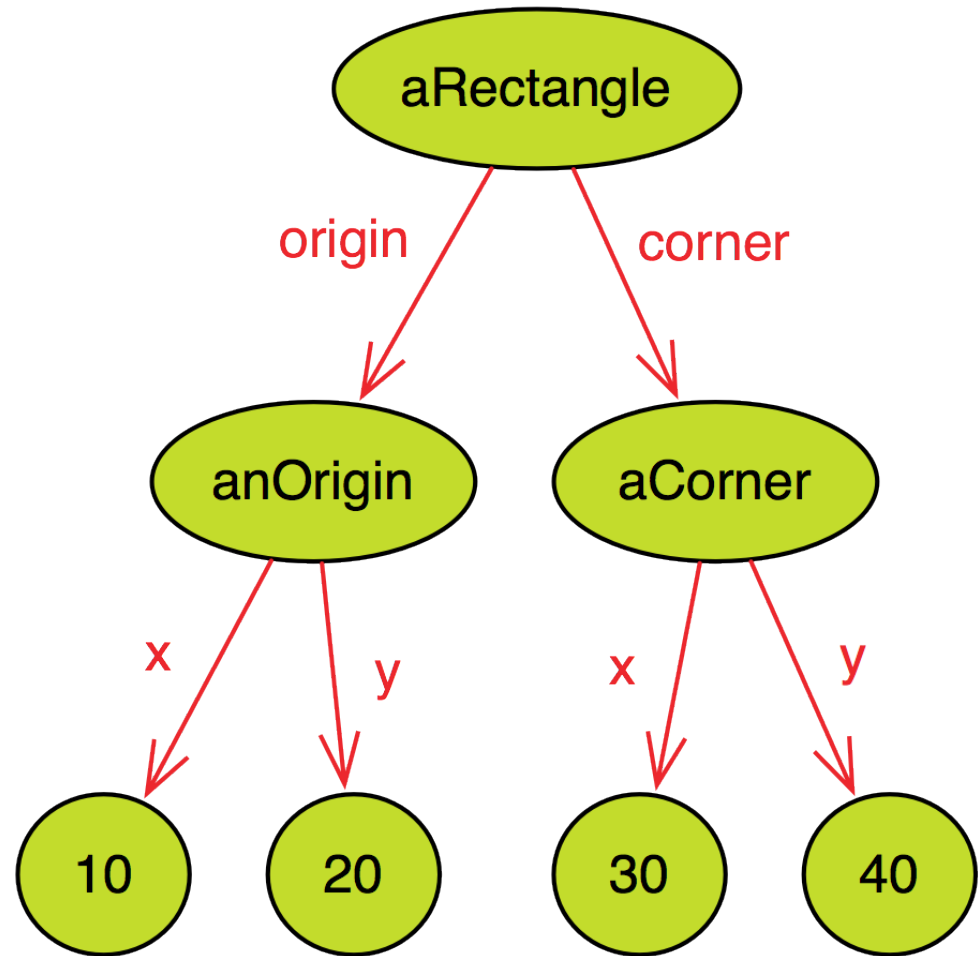
anOrigin := 10@20.

aCorner := 30@40.

aRectangle := **Rectangle** origin: **anOrigin** corner: **aCorner**.

(**FLSerializer** on: **aFileStream**) serialize: **aRectangle**.

The first step is **analyze** the rectangle being stored, traversing its **graph of references**.



The **objects** are clustered by some criteria, in this case by class.

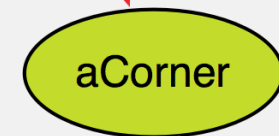
Outgoing **edges** are included in the clusters.

Rectangles



origin corner

Points



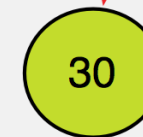
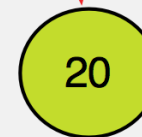
x

y

x

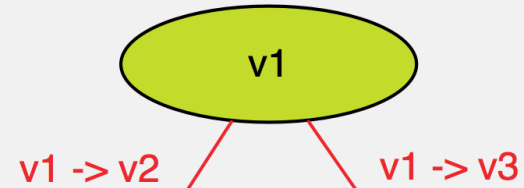
y

SmallIntegers



Thinking only
as **vertexes**
connected
by **edges**...

Rectangles



Points



SmallIntegers



We order the graph info in two parts:

Vertexes and Edges

Vertexes	Rectangles	v1
	Points	v2
		v3
	SmallIntegers	v4
		v5
		v6
		v7

Edges	Rectangles	v1 -> v2
		v1 -> v3
	Points	v2 -> v4
		v2 -> v5
		v3 -> v6
		v3 -> v7

We encode the graph in some sections: **header**, **vertexes**, **edges** and **trailer**.

Vertexes section will encode the **number of outgoing edges** of each vertex, so for encoding edges we only need a reference to the **successor**.

The trailer encodes who is the **root**: a reference to the rectangle.

Header		version info
		some extra info
		# clusters: 3
Vertexes	Rectangles	className: 'Rectangle'
		variables: 'origin corner'
		# instances: 1
	Points	className: 'Point'
		variables: 'x y'
		# instances: 2
	SmallIntegers	# instances: 4
		10
		20
		30
		40
	Edges	Rectangles
reference to v3		
Points		reference to v4
		reference to v5
		reference to v6
		reference to v7
Trailer		root: reference to v1