

Gremlin Cheat Sheet 102

Paths

Path Filters

Steps	Meaning
<code>simplePath()</code>	keep simple, non-cyclic paths (no element must appear twice or more in the current path)
<code>cyclicPath()</code>	keep cyclic paths (at least one element must appear twice or more in the current path)

Examples

```
gremlin> g = TinkerFactory.createModern().traversal()
==>graphtraversalsource[tinkergraph[vertices:6 edges:6], standard]
gremlin> g.V(1).out().in().simplePath().path()
==>[v[1],v[3],v[4]]
==>[v[1],v[3],v[6]]
gremlin> g.V(1).out().in().cyclicPath().path()
==>[v[1],v[3],v[1]]
==>[v[1],v[2],v[1]]
==>[v[1],v[4],v[1]]
```

Variables

Path-local Variables

Steps	Meaning
<code>sack(operator)</code>	assign or compute a path-local variable
<code>sack()</code>	emit the current sack value
<code>as(label)⋯select(Pop, label)</code>	select values from previously labeled steps

Examples

```
gremlin> g = TinkerFactory.createModern().traversal()
==>graphtraversalsource[tinkergraph[vertices:6 edges:6], standard]
gremlin> g.V(1).
.....1> sack(assign).
.....2>   by("age").
.....3>   out("knows").
.....4>   sack(sum).
.....5>   by("age").
.....6>   sack().
.....7>   path().
.....8>   by("age").by("age").by()
==>[29,27,56]
==>[29,32,61]
gremlin> g.V(1).as("a").out("knows").as("a").
.....1>  select(last, "a")
==>v[2]
==>v[4]
gremlin> g.V(1).as("a").out("knows").as("a").
.....1>  select(first, "a")
==>v[1]
==>v[1]
gremlin> g.V(1).as("a").out("knows").as("a").
.....1>  select(all, "a")
==>[v[1],v[2]]
==>[v[1],v[4]]
```

Pattern Matching

Steps	Meaning
<code>match(traversals)</code>	attempts to find matches for the provided patterns in the underlying graph
<code>where(traversal)</code>	puts constraints on labeled steps

Examples

```
gremlin> g = TinkerFactory.createGratefulDead().traversal()
==>graphtraversalsource[tinkergraph[vertices:808 edges:8049], standard]
gremlin> g.V().match(
.....1>   __.as("a").has("name", "Garcia"),
.....2>   __.as("a").in("writtenBy").as("b"),
.....3>   __.as("a").in("sungBy").as("b")).
.....4>  select("b").values("name")
==>CREAM PUFF WAR
==>CRYPTICAL ENVELOPMENT
gremlin> g.V().match(
.....1>   __.as("a").in("writtenBy").as("b"),
.....2>   __.as("a").in("sungBy").as("b")).
.....3>  where(__.as("a").has("name", "Garcia")).
.....4>  select("b").values("name")
==>CREAM PUFF WAR
==>CRYPTICAL ENVELOPMENT
gremlin> g.V().has("artist", "name", "Garcia").as("a").
.....1>  in("writtenBy").as("b").
.....2>  where(__.as("a").in("sungBy").as("b")).
.....3>  values("name")
==>CREAM PUFF WAR
==>CRYPTICAL ENVELOPMENT
```