Pull Examples

Tell me everything about Ben Parker

```
(d/pull parker-family '[*] [:name "Ben Parker"])
=> {:db/id 4, :gender "M", :name "Ben Parker", :spouse #:db{:id 5}}
```

Refs point to other entities

Tell me everything about Richard Parker

```
(d/pull parker-family '[*] [:name "Richard Parker"])
=> {:db/id 2, :child [#:db{:id 1}], :gender "M", :name "Richard Parker", :spouse #:db{:id 3}}
```

Tell me everything about Peter Parker

```
(d/pull parker-family '[*] [:name "Peter Parker"])
=> {:db/id 1, :alias ["Spider-Man" "Spidey"], :gender "M", :name "Peter Parker"}
```

What if I want to know who Peter's parents are? (d/pull parker-family '[{:_child [*]}] [:name "Peter Parker"])

```
{:_child [{:db/id 2, :child [#:db{:id 1}], :gender "M", :name "Richard Parker", :spouse #:db{:id 3}} {:db/id 3, :child [#:db{:id 1}], :gender "F", :name "Mary Parker", :spouse #:db{:id 2}}]}
```

An attribute preceded by an _ (e.g. _child) is a "back reference"

Datomic provides efficient back references for all forward references

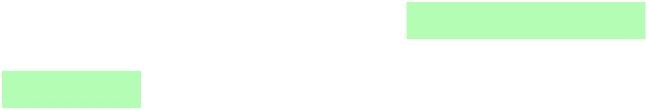
Datascript also resolves back references

Pull API is very powerful when refs are used - You "walk the graph in the pull spec"

Tell me everything about entity 4

```
(d/pull parker-family '[*] 4)
=> {:db/id 4, :gender "M", :name "Ben Parker", :spouse #:db{:id 5}}
```





Pull Examples

Tell me everything about entity 4

Refs point to other entities

```
(d/pull parker-family '[*] 4)
=> {:db/id 4, :gender "M", :name "Ben Parker", :spouse #:db{:id 5}}
```

Tell me everything about Ben Parker

A lookup ref

```
(d/pull parker-family '[*] [:name "Ben Parker"])
=> {:db/id 4, :gender "M", :name "Ben Parker", :spouse #:db{:id 5}}
```

Tell me everything about Richard Parker

```
(d/pull parker-family '[*] [:name "Richard Parker"])
=> {:db/id 2, :child [#:db{:id 1}], :gender "M", :name "Richard Parker", :spouse #:db{:id 3}}
```

Tell me everything about Peter Parker

```
(d/pull parker-family '[*] [:name "Peter Parker"])
=> {:db/id 1, :alias ["Spider-Man" "Spidey"], :gender "M", :name "Peter Parker"}
```

What if I want to know who Peter's parents are?

- An attribute preceded by an _ (e.g. _child) is a "back reference"
- Datomic provides efficient back references for all forward references
- Datascript also resolves back references
- Pull API is very powerful when refs are used You "walk the graph in the pull spec"

Query Comparison: Who are "Spidey's" Aunts and Uncles

We'll compare SQL and Datalog with pull