My Interest

- Maintainer of cbor2 Python library
- Implemented canonical (deterministic) encoding
Definition

- Key => Value Mappings
- Fast item lookup by key (i.e. Associative Array or Hash Table)
- Remembering insertion order
- Efficient iteration over all items
- Compact representation in memory (in Python)
Python OrderedDict

- Special class: OrderedDict
- Shares the representation of dict since Python 3.6
- Has some extra methods pop() and move_to_end(key)
- Order is important when comparing for equality
ECMAScript Map

Map is the ECMAScript equivalent of OrderedDict.

Differences with Object:

- supports arbitrary key types not just strings
- is an iterator over it's keys
- no key collisions with Object's prototype
Ruby Hash

Hash is the Ruby equivalent of dict and OrderedDict. It remembers insertion order since v1.9, however the insertion order is not used during equality comparisons.
cbor2 Issue

- [ ] https://github.com/agronholm/cbor2/issues/66
- CBOR type 5 loses order, especially with deterministic encoding
- Always decodes to Python’s `dict` where order is intended to be arbitrary
- We need a tag to communicate authorial intent
Considerations

- How often will this be used?
- How small a tag should be allocated? Currently 279 is proposed.
- https://github.com/Sekenre/cbor-ordered-map-spec