

Stack Allocation	<div>n.a.</div>	<div><div><i>global</i> &lt; <i>local</i></div><div>Locality future</div></div> <div><div>SAFETY: <i>local</i> will not outlive its region</div><div>NOT ALLOWED: <i>return</i>, <i>escape</i>, <i>global store</i> or <i>capture</i></div><div><i>local parameter</i> isn't requirement, it's behavior guarantee</div><div>NO CAPTURE/NEST: <i>local</i> in <i>global</i></div><div>Applies to non immediate values</div></div>
	Applies to mutable or mutable nesting data	Applies to functions or function nesting data
Ownership	<div><div>Uniqueness</div><div>unique &lt; <i>aliased</i></div><div>past</div></div> <div><div>LINEAGE: <i>unique</i> has not been aliased</div><div>ALLOWED: <i>unique</i> may be overwritten</div></div>	<div><div><i>many</i> &lt; <i>once</i></div><div>Affinity future</div></div> <div><div>SAFETY: <i>once</i> will not alias <i>unique</i> value</div><div>NOT ALLOWED: call <i>once</i> twice or more</div><div>NO CAPTURE: <i>once</i>, <i>unique</i> in <i>many</i></div></div>
Shared Memory	<div><div>Contention</div><div><i>uncontended</i> &lt; <i>shared</i> &lt; <i>contended</i></div><div>past</div></div> <div><div>LINEAGE: at most one thread retains <i>uncontended</i> access</div><div>ALLOWED / NOT ALLOWED:</div><div><ul style="list-style-type: none"><li><i>uncontended</i>: thread may read or write</li><li><i>share</i>: thread may only read</li><li><i>contended</i>, thread may neither read nor write</li></ul></div></div>	<div><div>portable &lt; <i>nonportable</i></div><div>Portability future</div></div> <div><div>SAFETY: <i>nonportable</i> will not give access to non <i>contended</i></div><div>NOT ALLOWED: call <i>nonportable</i> in another thread</div><div>NO CAPTURE: <i>nonportable</i>, <i>uncontended</i>, <i>shared</i> in <i>portable</i></div></div>
Effects	<div>n.a.</div>	<div><div><i>unyielding</i> &lt; <i>yielding</i></div><div>Yielding future</div></div> <div><div>SAFETY: <i>yielding</i> function will not perform effect handled in parent stack</div><div>NOT ALLOWED: <i>yielding</i> ...</div></div>
Mutable Data	<div><div>Visibility</div><div>read_write &lt; <i>read</i> &lt; <i>immutable</i></div><div>past</div></div> <div><div>LINEAGE: Non <i>immutable</i> value ...</div><div>ALLOWED:</div><div><ul style="list-style-type: none"><li><i>read_write</i>: may be read or written</li><li><i>read</i>: may only be read</li></ul></div></div>	<div><div><i>stateless</i> &lt; <i>observing</i> &lt; <i>stateful</i></div><div>Statefulness future</div></div> <div><div>SAFETY:</div><div><ul style="list-style-type: none"><li><i>observing</i>: will not write on <i>read_write</i> data</li><li><i>stateful</i>: will neither read nor write on non <i>immutable</i> data</li></ul></div><div>NOT ALLOWED:</div><div><ul style="list-style-type: none"><li><i>observing</i>: write</li><li><i>stateful</i>:</li></ul></div><div>LEG. NO CAPT.: <i>observing</i>, <i>stateful</i>, <i>read_write</i>, <i>read</i></div></div>