BitInvalidatorLib

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This library provides a mechanism to invalidate objects based on a bit invalidator. The bit invalidator holds a mapping where each key represents a slot number and each value contains an integer. Each bit of the integer represents whether the object with corresponding index is valid or has been invalidated (0 - valid, 1 - invalidated). The nonce given to access or invalidate an entity's state follows this structure:

- bits [0..7] represent the object state index in the slot.
- bits [8..255] represent the slot number (mapping key)._

Types

Data

```
struct Data {
    mapping(uint256 => uint256) _raw;
}
```

Functions

checkSlot

```
function checkSlot(struct BitInvalidatorLib.Data self, uint256 nonce) internal view returns (uint256)
```

Retrieves the validity status of entities in a specific slot.

Each bit in the returned value corresponds to the validity of an entity. 0 for valid, 1 for invalidated.

Parameters

Name	Type	Description
self	struct BitInvalidatorLib.Data	The data structure.
nonce	uint256	The nonce identifying the slot.

Return Values

Name	Type	Description
[0]	uint256	result The validity status of entities in the slot as a uint256.

checkAndInvalidate

```
function checkAndInvalidate(struct BitInvalidatorLib.Data self, uint256 nonce) internal
```

Checks the validity of a specific entity and invalidates it if valid.

Throws an error if the entity has already been invalidated.

Parameters

Name	Type	Description
self	struct BitInvalidatorLib.Data	The data structure.
nonce	uint256	The nonce identifying the slot and the entity.

massInvalidate

```
function massInvalidate(struct BitInvalidatorLib.Data self, uint256 nonce, uint256 additionalMask) internal returns (uint256 result)
```

Invalidates multiple entities in a single slot.

The entities to be invalidated are identified by setting their corresponding bits to 1 in a mask.

Parameters

Name	Type	Description
self	struct BitInvalidatorLib.Data	The data structure.
nonce	uint256	The nonce identifying the slot.

Name	Type	Description
additionalMask	uint256	A mask of bits to be invalidated.

Return Values

Name	Type	Description
result	uint256	Resulting validity status of entities in the slot as a uint256.

Errors

BitInvalidatedOrder

```
error BitInvalidatedOrder()
```

The error is thrown when an attempt is made to invalidate an already invalidated entity.