OrderLib

The library provides common functionality for processing and manipulating limit orders. It provides functionality to calculate and verify order hashes, calculate trade amounts, and validate extension data associated with orders. The library also contains helper methods to get the receiver of an order and call getter functions.

Functions list

- hash(order, domainSeparator) internal
- getReceiver(order) internal
- calculateMakingAmount(order, extension, requestedTakingAmount, remainingMakingAmount, orderHash) internal
- calculateTakingAmount(order, extension, requestedMakingAmount, remainingMakingAmount, orderHash) internal
- isValidExtension(order, extension) internal

Errors list

- MissingOrderExtension()
- UnexpectedOrderExtension()
- InvalidExtensionHash()

Functions

hash

```
function hash(struct IOrderMixin.Order order, bytes32 domainSeparator) internal pure returns (bytes32 result)
```

Calculates the hash of an order.

Parameters

Name	Type	Description
order	struct IOrderMixin.Order	The order to be hashed.
domainSeparator	bytes32	The domain separator to be used for the EIP-712 hashing.

Return Values

Name	Type	Description
result	bytes32	The keccak256 hash of the order data.

getReceiver

```
function getReceiver(struct IOrderMixin.Order order) internal pure returns (address)
```

Returns the receiver address for an order.

Parameters

Name	Type	Description
order	struct IOrderMixin.Order	The order.

Return Values

Name	Type	Description
[0]	address	receiver The address of the receiver, either explicitly defined in the order or the maker's address if not specified.

calculateMakingAmount

```
function calculateMakingAmount(struct IOrderMixin.Order order, bytes extension, uint256 requestedTakingAmount, uint256 remainingMakingAmount, bytes32 orderHash) internal view returns (uint256)
```

Calculates the making amount based on the requested taking amount.

If getter is specified in the extension data, the getter is called to calculate the making amount, otherwise the making amount is calculated linearly.

Parameters

Name	Type	Description
order	struct IOrderMixin.Order	The order.
extension	bytes	The extension data associated with the order.
requestedTakingAmount	uint256	The amount the taker wants to take.
remainingMakingAmount	uint256	The remaining amount of the asset left to fill.
orderHash	bytes32	The hash of the order.

Return Values

Name	Type	Description
[0]	uint256	makingAmount The amount of the asset the maker receives.

calculateTakingAmount

```
function calculateTakingAmount(struct IOrderMixin.Order order, bytes extension, uint256 requestedMakingAmount, uint256
remainingMakingAmount, bytes32 orderHash) internal view returns (uint256)
```

Calculates the taking amount based on the requested making amount.

If getter is specified in the extension data, the getter is called to calculate the taking amount, otherwise the taking amount is calculated linearly.

Parameters

Name	Type	Description
order	struct IOrderMixin.Order	The order.
extension	bytes	The extension data associated with the order.
requestedMakingAmount	uint256	The amount the maker wants to receive.
remainingMakingAmount	uint256	The remaining amount of the asset left to be filled.
orderHash	bytes32	The hash of the order.

Return Values

Name	Type	Description
[0]	uint256	takingAmount The amount of the asset the taker takes.

isValidExtension

```
function isValidExtension(struct IOrderMixin.Order order, bytes extension) internal pure returns (bool, bytes4)
```

Validates the extension associated with an order.

Parameters

Name	Type	Description
order	struct IOrderMixin.Order	The order to validate against.
extension	bytes	The extension associated with the order.

Return Values

Name	Type	Description
[0]	bool	valid True if the extension is valid, false otherwise.
[1]	bytes4	errorSelector The error selector if the extension is invalid, 0x00000000 otherwise.

Errors

MissingOrderExtension

```
error MissingOrderExtension()
```

Error to be thrown when the extension data of an order is missing.

UnexpectedOrderExtension

```
error UnexpectedOrderExtension()
```

Error to be thrown when the order has an unexpected extension.

InvalidExtensionHash

```
error InvalidExtensionHash()
```

Error to be thrown when the order extension hash is invalid.

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