SlimRouter

This documentation provides an overview of the ISlimRouter.sol contract, which defines the functions & events for conducting token swaps & managing token balances. The IRouter inherits this contract.

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Contract Details

- Name :
- ISlimRouter
- Solidity Version :
- ^0.8.0
- SPDX License-Identifier : GPL-2.0-or-later
- Code:[Github](#)
-

Structs

ExactInputSingleParams

```

Copy structExactInputSingleParams{ addresstokenIn; addresstokenOut; IPool pool; addressrecipient; uint256deadline; uint256amountIn; uint256amountOutMinimum; uint256sqrtPriceLimitD18; }

```

- tokenIn
- : The address of the token to be swapped.
- tokenOut
- : The address of the desired token to receive in the swap.
- pool
- : An instance of the IPool interface representing the pool to perform the swap in.
- recipient
- : The address where the swapped tokens will be sent.
- deadline
- : The deadline timestamp for the swap to be executed before it expires.
- amountIn
- : The amount of tokenIn token to be swapped.
- amountOutMinimum
- : The minimum amount of tokenOut tokens expected to be received from the swap.
- sqrtPriceLimitD18
- : The square root of the price limit for the swap, represented with 18 decimal places.
-

ExactOutputSingleParams

```
Copy structExactOutputSingleParams{ addresstokenIn; addresstokenOut; IPool pool; addressrecipient; uint256deadline; uint256amountOut; uint256amountInMaximum; }
```

- tokenIn
- : The address of the token to be used as input in the swap.
- tokenOut
- : The address of the token to be received as output in the swap.
- pool
- : An instance of the IPool interface representing the pool to perform the swap in.
- recipient
- : The address where the swapped tokens will be sent.
- deadline
- : The deadline timestamp for the swap to be executed before it expires.
- amountOut
- : The desired amount of tokenOut tokens to be received from the swap.
- amountInMaximum
- : The maximum amount of tokenIn tokens to be used for the swap.
-

Functions

WETH9()

Retrieves the address of the WETH9 token.

```
Copy functionWETH9()externalviewreturns(IWETH9);
```

- Returns :
-
  - IWETH9
-
  - : An instance of theIWETH9
-
  - interface representing the WETH9 token.
- *
-

exactInputSingle()

SwapsamountIn of one token for as much as possible of another token.

```
Copy functionexactInputSingle(ExactInputSingleParamscalldataparams)externalpayablereturns(uint256amountOut);
```

- Parameters :
-
  - params
-
  - : The parameters necessary for the swap, encoded asExactInputSingleParams
-
  - structure in calldata.
- *
- Returns :
-
  - amountOut
-
  - : The amount of the received tokenuint256
-

- - .
- *
-

exactOutputSingle()

Swaps as little as possible of one token for amountOut of another token.

```
```

```
Copy functionexactOutputSingle(ExactOutputSingleParamscalldataparams)externalpayablereturns(uint256amountIn);
```

```
```

- - Parameters :
  -
    - - params
  -
    - - : The parameters necessary for the swap, encoded asExactOutputSingleParams
  -
    - - structure in calldata.
- - *
- - Returns:
  -
    - - amountIn
  -
    - - : The amount of the input tokenuint256
  -
    - - .
- - *
-

unwrapWETH9()

Unwraps the contract'sWETH9 balance and sends it to the specified recipient asETH .

```
```

```
Copy functionunwrapWETH9(uint256amountMinimum,addressrecipient)externalpayable;
```

```
```

- - Parameters:
  -
    - - amountMinimum
  -
    - - : Theminimum amount
  -
    - - ofWETH9
  -
    - - to unwrap.
  -
    - - recipient
  -
    - - : Theaddress
  -
    - - receiving ETH.
- - *
-

refundETH()

Refunds anyETH balance held by this contract to themsg.sender .

```
```

```
Copy functionrefundETH()externalpayable;
```

```
```

sweepToken()

Transfers the full amount of a specified token held by this contract to the recipient.

```
Copy functionsweepToken(IERC20token,uint256amountMinimum,addressrecipient)externalpayable;
```

- Parameters:
  -
    - token
  -
    - : The contractaddress
  -
    - of the token to be transferred.
  -
    - amountMinimum
  -
    - : Theminimum amount
  -
    - of tokenuint256
  -
    - required for the transfer.
  -
    - recipient
  -
    - : The destinationaddress
  -
    - of the token.
- *
-

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