tf.matrix_diag_part

Contents

Aliases:

Aliases:

- `tf.linalg.diag_part`
- `tf.matrix_diag_part`

```
matrix_diag_part(
    input,
    name=None
)
```

Defined in `tensorflow/python/ops/gen_array_ops.py` .

See the guide: Math > Matrix Math Functions

Returns the batched diagonal part of a batched tensor.

This operation returns a tensor with the `diagonal` part of the batched `input` . The `diagonal` part is computed as follows:

Assume `input` has `k` dimensions `[I, J, K, ..., M, N]` , then the output is a tensor of rank `k - 1` with dimensions `[I, J, K, ..., min(M, N)]` where:

`diagonal[i, j, k, ..., n] = input[i, j, k, ..., n, n]` .

The input must be at least a matrix.

For example:

```
# 'input' is [[[1, 0, 0, 0]
               [0, 2, 0, 0]
               [0, 0, 3, 0]
               [0, 0, 0, 4]],
              [[5, 0, 0, 0]
               [0, 6, 0, 0]
               [0, 0, 7, 0]
               [0, 0, 0, 8]]]

and input.shape = (2, 4, 4)

tf.matrix_diag_part(input) ==> [[1, 2, 3, 4], [5, 6, 7, 8]]

which has shape (2, 4)
```

Args:

- `input` : A `Tensor` . Rank `k` tensor where `k >= 2` .
- `name` : A name for the operation (optional).

Returns:

A `Tensor` . Has the same type as `input` . The extracted diagonal(s) having shape `diagonal.shape = input.shape[:-2] + [min(input.shape[-2:])]` .

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