

tf.diag_part

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

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

See the guide: [Math > Matrix Math Functions](#)

Returns the diagonal part of the tensor.

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

Assume **input** has dimensions `[D1,..., Dk, D1,..., Dk]`, then the output is a tensor of rank **k** with dimensions `[D1,..., Dk]` where:

diagonal`[i1,..., ik] = input[i1, ..., ik, i1,..., ik]`.

For example:

```
# 'input' is [[1, 0, 0, 0]  
             [0, 2, 0, 0]  
             [0, 0, 3, 0]  
             [0, 0, 0, 4]]  
  
tf.diag_part(input) ==> [1, 2, 3, 4]
```

Args:

- input**: A **Tensor**. Must be one of the following types: `float32`, `float64`, `int32`, `int64`, `complex64`, `complex128`. Rank **k** tensor where **k** is 2, 4, or 6.
- name**: A name for the operation (optional).

Returns:

A **Tensor**. Has the same type as **input**. The extracted diagonal.

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