

tf.transpose

```
transpose(  
    a,  
    perm=None,  
    name='transpose'  
)
```

Defined in [tensorflow/python/ops/array_ops.py](#).

See the guides: [Math > Matrix Math Functions](#), [Tensor Transformations > Slicing and Joining](#)

Transposes **a**. Permutes the dimensions according to **perm**.

The returned tensor's dimension *i* will correspond to the input dimension **perm[i]**. If **perm** is not given, it is set to (n-1...0), where *n* is the rank of the input tensor. Hence by default, this operation performs a regular matrix transpose on 2-D input Tensors.

For example:

```
x = tf.constant([[1, 2, 3], [4, 5, 6]])  
tf.transpose(x) # [[1, 4]  
                # [2, 5]  
                # [3, 6]]  
  
# Equivalently  
tf.transpose(x, perm=[1, 0]) # [[1, 4]  
                              # [2, 5]  
                              # [3, 6]]  
  
# 'perm' is more useful for n-dimensional tensors, for n > 2  
x = tf.constant([[[ 1, 2, 3],  
                  [ 4, 5, 6]],  
                [[ 7, 8, 9],  
                [10, 11, 12]]])  
  
# Take the transpose of the matrices in dimension-0  
tf.transpose(x, perm=[0, 2, 1]) # [[[1, 4],  
                                   # [2, 5],  
                                   # [3, 6]],  
                                   # [[7, 10],  
                                   # [8, 11],  
                                   # [9, 12]]]
```

Args:

- **a**: A **Tensor**.
- **perm**: A permutation of the dimensions of **a**.
- **name**: A name for the operation (optional).

Returns:

A transposed **Tensor** .

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