

tf.deserialize_many_sparse

```
deserialize_many_sparse(  
    serialized_sparse,  
    dtype,  
    rank=None,  
    name=None  
)
```

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

Deserialize and concatenate **SparseTensors** from a serialized minibatch.

The input **serialized_sparse** must be a string matrix of shape **[N x 3]** where **N** is the minibatch size and the rows correspond to packed outputs of **serialize_sparse**. The ranks of the original **SparseTensor** objects must all match. When the final **SparseTensor** is created, it has rank one higher than the ranks of the incoming **SparseTensor** objects (they have been concatenated along a new row dimension).

The output **SparseTensor** object's shape values for all dimensions but the first are the max across the input **SparseTensor** objects' shape values for the corresponding dimensions. Its first shape value is **N**, the minibatch size.

The input **SparseTensor** objects' indices are assumed ordered in standard lexicographic order. If this is not the case, after this step run **sparse_reorder** to restore index ordering.

For example, if the serialized input is a **[2, 3]** matrix representing two original **SparseTensor** objects:

```
index = [ 0]  
        [10]  
        [20]  
values = [1, 2, 3]  
shape = [50]
```

and

```
index = [ 2]  
        [10]  
values = [4, 5]  
shape = [30]
```

then the final deserialized **SparseTensor** will be:

```
index = [0  0]  
        [0 10]  
        [0 20]  
        [1  2]  
        [1 10]  
values = [1, 2, 3, 4, 5]  
shape = [2 50]
```

Args:

- serialized_sparse**: 2-D **Tensor** of type **string** of shape **[N, 3]**. The serialized and packed **SparseTensor** objects.

- `dtype` : The `dtype` of the serialized `SparseTensor` objects.
- `rank` : (optional) Python int, the rank of the `SparseTensor` objects.
- `name` : A name prefix for the returned tensors (optional)

Returns:

A `SparseTensor` representing the deserialized `SparseTensor` s, concatenated along the `SparseTensor` s' first dimension.

All of the serialized `SparseTensor` s must have had the same rank and type.

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