

## tf.sparse\_retain

```
sparse_retain(  
    sp_input,  
    to_retain  
)
```

Defined in [tensorflow/python/ops/sparse\\_ops.py](#).

See the guide: [Sparse Tensors > Manipulation](#)

Retains specified non-empty values within a `SparseTensor`.

For example, if `sp_input` has shape `[4, 5]` and 4 non-empty string values:

```
[0, 1]: a  
[0, 3]: b  
[2, 0]: c  
[3, 1]: d
```

and `to_retain = [True, False, False, True]`, then the output will be a `SparseTensor` of shape `[4, 5]` with 2 non-empty values:

```
[0, 1]: a  
[3, 1]: d
```

## Args:

- `sp_input`: The input `SparseTensor` with `N` non-empty elements.
- `to_retain`: A bool vector of length `N` with `M` true values.

## Returns:

A `SparseTensor` with the same shape as the input and `M` non-empty elements corresponding to the true positions in `to_retain`.

## Raises:

- `TypeError`: If `sp_input` is not a `SparseTensor`.

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