tf.sparse_reset_shape

```
sparse_reset_shape(
    sp_input,
    new_shape=None
)
```

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

See the guide: Sparse Tensors > Manipulation

Resets the shape of a `SparseTensor` with indices and values unchanged.

If `new_shape` is None, returns a copy of `sp_input` with its shape reset to the tight bounding box of `sp_input`. This will be a shape consisting of all zeros if sp_input has no values.

If `new_shape` is provided, then it must be larger or equal in all dimensions compared to the shape of `sp_input`. When this condition is met, the returned SparseTensor will have its shape reset to `new_shape` and its indices and values unchanged from that of `sp_input.`

For example:

Consider a `sp_input` with shape [2, 3, 5]:

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

- It is an error to set `new_shape` as [3, 7] since this represents a rank-2 tensor while `sp_input` is rank-3. This is either a ValueError during graph construction (if both shapes are known) or an OpError during run time.
- Setting `new_shape` as [2, 3, 6] will be fine as this shape is larger or equal in every dimension compared to the original shape [2, 3, 5].
- On the other hand, setting new_shape as [2, 3, 4] is also an error: The third dimension is smaller than the original shape [2, 3, 5] (and an `InvalidArgumentError` will be raised).
- If `new_shape` is None, the returned SparseTensor will have a shape [2, 3, 4], which is the tight bounding box of `sp_input`.

Args:

- `sp_input`: The input `SparseTensor`.
- `new_shape`: None or a vector representing the new shape for the returned `SparseTensor`.

Returns:

A `SparseTensor` indices and values unchanged from `input_sp`. Its shape is `new_shape` if that is set. Otherwise it is the tight bounding box of `input_sp`

Raises:

- `TypeError` : If `sp_input` is not a `SparseTensor` .
- `ValueError` : If `new_shape` represents a tensor with a different rank from that of `sp_input` (if shapes are known when graph is constructed).
- `ValueError` : If `new_shape` is determined during graph build to have dimension sizes that are too small.
- `OpError` : - If `new_shape` has dimension sizes that are too small.
    - If shapes are not known during graph construction time, and during run time it is found out that the ranks do not match.

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