# tf.sparse_placeholder

```
sparse_placeholder(
    dtype,
    shape=None,
    name=None
)
```

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

See the guide: Inputs and Readers > Placeholders

Inserts a placeholder for a sparse tensor that will be always fed.

**Important**: This sparse tensor will produce an error if evaluated. Its value must be fed using the `feed_dict` optional argument to `Session.run()`, `Tensor.eval()`, or `Operation.run()`.

For example:

```
x = tf.sparse_placeholder(tf.float32)
y = tf.sparse_reduce_sum(x)

with tf.Session() as sess:
  print(sess.run(y))  # ERROR: will fail because x was not fed.

  indices = np.array([[3, 2, 0], [4, 5, 1]], dtype=np.int64)
  values = np.array([1.0, 2.0], dtype=np.float32)
  shape = np.array([7, 9, 2], dtype=np.int64)
  print(sess.run(y, feed_dict={
    x: tf.SparseTensorValue(indices, values, shape)}))  # Will succeed.
  print(sess.run(y, feed_dict={
    x: (indices, values, shape)}))  # Will succeed.

  sp = tf.SparseTensor(indices=indices, values=values, dense_shape=shape)
  sp_value = sp.eval(session=sess)
  print(sess.run(y, feed_dict={x: sp_value}))  # Will succeed.
```

## Args:

- `dtype`: The type of `values` elements in the tensor to be fed.
- `shape`: The shape of the tensor to be fed (optional). If the shape is not specified, you can feed a sparse tensor of any shape.
- `name`: A name for prefixing the operations (optional).

## Returns:

A `SparseTensor` that may be used as a handle for feeding a value, but not evaluated directly.

*Last updated November 2, 2017.*