

## tf.contrib.seq2seq.tied\_rnn\_seq2seq

```
tied_rnn_seq2seq(  
    encoder_inputs,  
    decoder_inputs,  
    cell,  
    loop_function=None,  
    dtype=tf.float32,  
    scope=None  
)
```

Defined in [tensorflow/contrib/legacy\\_seq2seq/python/ops/seq2seq.py](#).

RNN sequence-to-sequence model with tied encoder and decoder parameters.

This model first runs an RNN to encode `encoder_inputs` into a state vector, and then runs decoder, initialized with the last encoder state, on `decoder_inputs`. Encoder and decoder use the same RNN cell and share parameters.

### Args:

- `encoder_inputs`: A list of 2D Tensors [batch\_size x input\_size].
- `decoder_inputs`: A list of 2D Tensors [batch\_size x input\_size].
- `cell`: `tf.nn.rnn_cell.RNNCell` defining the cell function and size.
- `loop_function`: If not None, this function will be applied to i-th output in order to generate i+1-th input, and `decoder_inputs` will be ignored, except for the first element ("GO" symbol), see `rnn_decoder` for details.
- `dtype`: The dtype of the initial state of the rnn cell (default: `tf.float32`).
- `scope`: `VariableScope` for the created subgraph; default: "tied\_rnn\_seq2seq".

### Returns:

A tuple of the form (outputs, state), where: `outputs`: A list of the same length as `decoder_inputs` of 2D Tensors with shape [batch\_size x output\_size] containing the generated outputs. `state`: The state of each decoder cell in each time-step. This is a list with length `len(decoder_inputs)` – one item for each time-step. It is a 2D Tensor of shape [batch\_size x cell.state\_size].

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Last updated November 2, 2017.

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