tf.reverse_sequence

```
reverse_sequence(
    input,
    seq_lengths,
    seq_axis=None,
    batch_axis=None,
    name=None,
    seq_dim=None,
    batch_dim=None
)
```

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

See the guide: Tensor Transformations > Slicing and Joining

Reverses variable length slices.

This op first slices `input` along the dimension `batch_axis`, and for each slice `i`, reverses the first `seq_lengths[i]` elements along the dimension `seq_axis`.

The elements of `seq_lengths` must obey `seq_lengths[i] <= input.dims[seq_dim]`, and `seq_lengths` must be a vector of length `input.dims[batch_dim]`.

The output slice `i` along dimension `batch_axis` is then given by input slice `i`, with the first `seq_lengths[i]` slices along dimension `seq_axis` reversed.

For example:

```
# Given this:
batch_dim = 0
seq_dim = 1
input.dims = (4, 8, ...)
seq_lengths = [7, 2, 3, 5]

# then slices of input are reversed on seq_dim, but only up to seq_lengths:
output[0, 0:7, :, ...] = input[0, 7:0:-1, :, ...]
output[1, 0:2, :, ...] = input[1, 2:0:-1, :, ...]
output[2, 0:3, :, ...] = input[2, 3:0:-1, :, ...]
output[3, 0:5, :, ...] = input[3, 5:0:-1, :, ...]

# while entries past seq_lens are copied through:
output[0, 7:, :, ...] = input[0, 7:, :, ...]
output[1, 2:, :, ...] = input[1, 2:, :, ...]
output[2, 3:, :, ...] = input[2, 3:, :, ...]
output[3, 2:, :, ...] = input[3, 2:, :, ...]
```

In contrast, if:

```
# Given this:
batch_dim = 2
seq_dim = 0
input.dims = (8, ?, 4, ...)
seq_lengths = [7, 2, 3, 5]

# then slices of input are reversed on seq_dim, but only up to seq_lengths:
output[0:7, :, 0, :, ...] = input[7:0:-1, :, 0, :, ...]
output[0:2, :, 1, :, ...] = input[2:0:-1, :, 1, :, ...]
output[0:3, :, 2, :, ...] = input[3:0:-1, :, 2, :, ...]
output[0:5, :, 3, :, ...] = input[5:0:-1, :, 3, :, ...]

# while entries past seq_lens are copied through:
output[7:, :, 0, :, ...] = input[7:, :, 0, :, ...]
output[2:, :, 1, :, ...] = input[2:, :, 1, :, ...]
output[3:, :, 2, :, ...] = input[3:, :, 2, :, ...]
output[2:, :, 3, :, ...] = input[2:, :, 3, :, ...]
```

Args:

- `input`: A **`Tensor`**. The input to reverse.
- `seq_lengths`: A **`Tensor`**. Must be one of the following types: **`int32`**, **`int64`**. 1-D with length **`input.dims(batch_dim)`** and **`max(seq_lengths) <= input.dims(seq_dim)`**
- `seq_axis`: An **`int`**. The dimension which is partially reversed.
- `batch_axis`: An optional **`int`**. Defaults to **`0`**. The dimension along which reversal is performed.
- `name`: A name for the operation (optional).

Returns:

A **`Tensor`**. Has the same type as **`input`**. The partially reversed input. It has the same shape as **`input`**.

Last updated November 2, 2017.