tf.confusion_matrix

```
confusion_matrix(
    labels,
    predictions,
    num_classes=None,
    dtype=tf.int32,
    name=None,
    weights=None
)
```

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

Computes the confusion matrix from predictions and labels.

Calculate the Confusion Matrix for a pair of prediction and label 1-D int arrays.

The matrix columns represent the prediction labels and the rows represent the real labels. The confusion matrix is always a 2-D array of shape `[n, n]` , where `n` is the number of valid labels for a given classification task. Both prediction and labels must be 1-D arrays of the same shape in order for this function to work.

If `num_classes` is None, then `num_classes` will be set to the one plus the maximum value in either predictions or labels. Class labels are expected to start at 0. E.g., if `num_classes` was three, then the possible labels would be `[0, 1, 2]` .

If `weights` is not `None` , then each prediction contributes its corresponding weight to the total value of the confusion matrix cell.

For example:

```
tf.contrib.metrics.confusion_matrix([1, 2, 4], [2, 2, 4]) ==>
    [[0 0 0 0 0]
     [0 0 1 0 0]
     [0 0 1 0 0]
     [0 0 0 0 0]
     [0 0 0 0 1]]
```

Note that the possible labels are assumed to be `[0, 1, 2, 3, 4]` , resulting in a 5x5 confusion matrix.

Args:

- `labels` : 1-D **Tensor** of real labels for the classification task.
- `predictions` : 1-D **Tensor** of predictions for a given classification.
- `num_classes` : The possible number of labels the classification task can have. If this value is not provided, it will be calculated using both predictions and labels array.
- `dtype` : Data type of the confusion matrix.
- `name` : Scope name.
- `weights` : An optional **Tensor** whose shape matches `predictions` .

Returns:

A k X k matrix representing the confusion matrix, where k is the number of possible labels in the classification task.

Raises:

- `ValueError` : If both predictions and labels are not 1-D vectors and have mismatched shapes, or if `weights` is not `None` and its shape doesn't match `predictions` .

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