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from typing import Tuple

import numpy as np

def discrete_bayes(
    # the prior: shape=(n,)
    pr: np.ndarray,
    # the conditional/likelihood: shape=(n, m)
    cond_pr: np.ndarray,
) -> Tuple[
    np.ndarray, np.ndarray
]:
    # the new marginal and conditional: shapes=((m,), (m, n))
    """Swap which discrete variable is the marginal and conditional."""

    joint = cond_pr*pr# Done

    marginal = sum(joint, axis=1)# Done

    # Take care of rare cases of degenerate zero marginal,
    conditional = joint/marginal # TODO

    # flip axes?? (n, m) -> (m, n)
    # conditional = conditional.T

    # optional DEBUG
    assert np.all(
        np.isfinite(conditionals)
    ), f"NaN or inf in conditional in discrete bayes"
    assert np.all(
        np.less_equal(0, conditional)
    ), f"Negative values for conditional in discrete bayes"
    assert np.all(
        np.less_equal(conditionals, 1)
    ), f"Value more than on in discrete bayes"

    assert np.all(np.isfinite(marginal)), f"NaN or inf in marginal in discrete bayes"

    return marginal, conditional

```