Ex11: Mutual information for base-pairs
A measure of the surprisingness of the *evolution* of two positions in the sequence.

$$M(i,j) = \sum f_{i,j}(B_1,B_2) \log_2 \left( \frac{f_{i,j}(B_1,B_2)}{f_i(B_1)f_j(B_2)} \right)$$

where $B_1,B_2 \in \{A,C,G,T\}$

**Exercise:** Calculate $M(i,j) =$ ____________