

```

R12Reduce1 [vd VD] := Tidy@Module[{R2s, R2}, Which[
  Length[R2s = Cases[vd, Xs[i_, j_]  $\Rightarrow$  Xs[i + 1, j + 1]]  $\cap$  (List@@vd)] > 0,
  Complement[vd, VD[R2 = First@R2s, R2 /. Xs[i_, j_]  $\Rightarrow$  Xs[i - 1, j - 1]]],
  Length[R2s = Cases[vd, Xs[i_, j_]  $\Rightarrow$  Xs[i + 1, j - 1]]  $\cap$  (List@@vd)] > 0,
  Complement[vd, VD[R2 = First@R2s, R2 /. Xs[i_, j_]  $\Rightarrow$  Xs[i - 1, j + 1]]],
  True, DeleteCases[vd, X[i_, j_] /. Abs[i - j] == 1]];
R12Reduce [vd VD] := FixedPoint[R12Reduce1, vd]

```