Algorithm 1 Creates $H \in \mathbb{R}^{(3m)\times(3n)}$

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1: procedure GHMATECE
2:     for j := 1, n do
3:         for i := 1, m do
4:             ii := 3(i − 1) + 1; jj := 3(j − 1) + 1
5:             Allocate Hbuffer, buffer of matrices 3 × 3 of size g^2
6:             if i ≠ j then
7:                 for y := 1, g do
8:                     for x := 1, g do
9:                         Hbuffer(x, y) ← GenerateMatrixH(i, j, x, y)
10:                Helement ← SumAllMatricesInBuffer(Hbuffer)
11:            else
12:                Helement ← 0
13:            G[ii : ii + 2][jj : jj + 2] ← Gelement
14:            H[ii : ii + 2][jj : jj + 2] ← Helement
15:    Rigid(H)
16: procedure RIGID(H)
17:    for i := 1, m do
18:        for j := 1, n do
19:            ii := 3(i − 1) + 1; jj := 3(j − 1) + 1
20:            if i ≠ j then
21:                H[ii : ii + 2][ii : ii + 2] ← H[ii : ii + 2][ii : ii + 2] + H[ii : ii + 2][jj : jj + 2]
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