

4.4 RAT

1. What Restrictions Might We Want For \mathbf{H} (Doc) Matrix
 - a) Integers
 - b) Symmetric
 - c) No negative Values
 - d) Topic values for each document sum to 1
 - e) Document values for each topic sum to 1
2. Given the following \mathbf{H} and \mathbf{W} matrices:
Predict the number of times \mathbf{W}_5 shows up in \mathbf{D}_1 .

\mathbf{H}

	T_1	T_2	T_3	T_4
D_1	0.2	0	0.8	0
D_2	0	1	0	0
D_3	0	0.5	0.5	0
D_4	0	0	0	1
D_5	0.8	0	0	0.2

\mathbf{W}

	W_1	W_2	W_3	W_4	W_5	W_6
T_1	1.8	0.6	5.1	0	5.0	0
T_2	0	3.2	0	0	0	4.2
T_3	0	2.1	2.0	0	2.5	0
T_4	0	0	0	1.5	3.2	5.0