Lecture 6: A PTAS for Minimum Makespan:II

Example of restricted bin packing. (corrected 15/1/01)

Let $t = 5$ and all items be 2 or 3 so $k = 2$. An instance of *restricted bin packing* is $I = (i_1, i_2)$ where i_1 is the number of 2's and i_2 is the number of 3s.

The only possible ways to pack *one* bin are using 2, 3, 22, 23, 223 so $\mathcal{Q} = \{(1,0), (0,1)\,(2,0), (1,1), (2,1)\}$. We start by setting $BINS(q) = 1$ for all $q \in Q$ and

$$BINS(i_1, i_2) = 1 + \min_{(q_1,q_2)\in Q} BINS(i_1 - q_1, i_2 - q_2).$$

i_1	i_2	$BINS(i_1, i_2)$
0	**1**	**1**
0	2	2
0	3	3
1	**0**	**1**
1	**1**	**1**
1	2	2
1	3	3
2	**0**	**1**
2	1	2
2	2	2
2	3	3
3	0	2
3	1	2
3	2	3
3	3	3