

Item i	Weight $w_i$	Value $v_i$
1	2	\$12
2	1	\$10
3	3	\$20
4	2	\$15

Calculate MFKnapsack(4,5)

Straightforward: row by row, col by col

	0	1	2	3	4	5
0	\$0	\$0	\$0	\$0	\$0	\$0
1	\$0	\$0	\$12	\$12	\$12	\$12
2	\$0	\$10	\$12	\$22	\$22	\$22
3	\$0	\$10	\$12	\$22	\$30	\$32
4	\$0	\$10	\$15	\$25	\$30	\$37

Memory Functions

	0	1	2	3	4	5
0	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
1	<b>0</b>	<b>5</b>	<b>4</b>	<b>8</b>	<b>2</b>	<b>1</b>
2	<b>0</b>		<b>6</b>	<b>9</b>		<b>3</b>
3	<b>0</b>			<b>10</b>		<b>7</b>
4	<b>0</b>					<b>11</b>

- 11** -  $\text{MFK}(4,5) = \max([3,5], [3,3] + \$15)$
- 07** -  $\text{MFK}(3,5) = \max([2,5], [2,2] + \$20)$
- 03** -  $\text{MFK}(2,5) = \max([1,5], [1,4] + \$10)$
- 01** -  $\text{MFK}(1,5) = \max(\$0, \$12)$
- 02** -  $\text{MFK}(1,4) = \max(\$0, \$12)$
- 06** -  $\text{MFK}(2,2) = \max([1,2], [1,1] + \$10)$
- 04** -  $\text{MFK}(1,2) = \max(\$0, \$12)$
- 05** -  $\text{MFK}(1,1) = \$0$
- 10** -  $\text{MFK}(3,3) = \max([2,3], \$20)$
- 09** -  $\text{MFK}(2,3) = \max([1,3], [1,2] + \$10)$
- 08** -  $\text{MFK}(1,3) = \max(\$0, \$12)$