Knapsack Problem

- A theif breaks into a house, carrying a knapsack
- Can carry up to 5 pounds of loot
- has to choose which of N items to steal
- \bullet Each item has some weight + value
- 0-1 because each item is stolen (1) or not stolen(0)
- has to select the items to steal that maximize the value of the loot

| item | weight | value | value/ratio |
|------|--------|-------|-------------|
| 1 | 2 | 12 | 6 |
| 2 | 1 | 10 | 10 |
| 3 | 3 | 20 | 6.66 |
| 4 | 2 | 15 | 7.5 |
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