Puzzle #5: Gold Coins

(To be discussed on November 4, 2011)

1. There are 10 bags of gold coins, 100 coins per bag. Genuine gold coins weigh 10 ounces each, but one of the bags is full of counterfeit ones, each of which weighs 9 ounces. By using a scale only once, find out which bag contains counterfeit coins.

2. Now suppose that we don’t know how much a counterfeit coin weighs. Use a scale twice to find out which bag contains counterfeit coins.