We are given n ads and a list of m ad slots on a web page. We know the probability a_i that a user sees the ith ad slot, the probability b_j that the user clicks on ad j given that they see the ad, and the revenue r_j that the web owner receives if the user clicks on the ad. Every ad may be displayed at most once. We can assume that $n \geq m$. We need to find an injective map from the set of slots to ads to maximize

$$\sum_{i=1}^{m} a_i b_{f(i)} r_{f(i)}.$$

1. A greedy algorithm for this problem is as follows:
2. Its running time is
3. Finally we prove that the algorithm is correct.