

Problem: Laptops

Soln. Let $q[a[i]] = b[i]$. Now sort a , i.e rearrange $a[i \in [0, n)]$ such that $a[i] < a[i + 1]$ for all $0 \leq i < n - 1$. Note that $a[i \in [0, n)]$ and $b[i \in [0, n)]$ are distinct, so the first laptop $a[i]$ for which $q[a[i]] > q[a[i + 1]]$ ($0 \leq i < n - 1$) gives us the second laptop $a[i + 1]$, since this pair satisfies $a[i] < a[i + 1]$ and $q[a[i]] > q[a[i + 1]]$. Thus, if $q[a[i \in [0, n)]$ is not sorted, print "Happy Alex". Otherwise print "Poor Alex".