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Question2:

 First let's sort N P and Q to get

The skill level of worker xi in increasing order: it takes NlogN
The most required skill level pi in decreasing order: it takes PlogP
The least required skill level qi in increasing order: it takes QlogQ

Now it cost NlogN + PlogP + QlogQ time

Let N>=i>=1 ,P>=j>=1,Q>=k>=1
First check N and Q from front to end,if xi greater than qk ,and delete ith worker in N (if necessary also can delete kth job in Q) to record that worker found a job.Then move to xi+1 and qk+1.

Once xi less than or equals to qk,   move to xi+1 and compare xi+1 with qk and so on, in In the worst case it takes N+Q time

After that check P from front to end and N from end to front,
If xi less than or equals to pj, delete ith worker in N (if necessary also can delete jth job in p)to record this worker found a job,Then move to xi-1 and pj+1.

Once xi greater than pj, move to xi-1 and compare xi-1 with qk and so on,in the worst case it takes N+P time

It totally takes NlogN + PlogP + QlogQ + N + P + N + Q time
Which is equals to NlogN + PlogP + QlogQ

finished