

**Problem 1**

Each subset is only considered once per loop.  $O(n + R)$

**Problem 2**

Initializing inverted index  $O(m)$ , loop is same as before. Total  $O(m + n + R)$

**Problem 3**

Initializing inverted index  $O(m)$ , initializing priority queue and inserting  $O(n \log n)$ , looping through skill sets (each  $T_j$  only considered once)  $O(R \log(n))$ . Total  $O(m + n \log n + R \log n)$