n: total number of users
T: total available bandwidth across all users
Q: users' current quality levels (**input** & **output**)
Tiles: users' to-be-fetched tile lists (**input**)
Q': local copy of **Q**
B: individual user's available bandwidth
λ: bandwidth usage safety margin
RESERVE: reserved bandwidth for each user

```
01 T = get_total_bw_from_AP() * λ
02 Q'[1..n] = Q[1..n]
03 B[1..n] = get_individual_bw_from_AP([1..n]) * λ
04 foreach user i:
05     while (bw_util(Tiles[i],Q'[i])≥B[i] and Q'[i] is not lowest):
06         Q'[i] = Q'[i] - 1
07     T = T – min(B[i], max(RESERVE, bw_util(Tiles[i], Q'[i])))
08 if (T < 0):
09     lru_decrease(Q'[1..n]) until (T≥0 or Q'[1..n] are lowest)
10 else:
11     lru_increase(Q'[1..n]) until (T≈0 or Q'[1..n] are highest)
12 Q[1..n] = Q'[1..n]
```