



Problem J: Dominant Champion

Time limit: 1s; Memory limit: 256 MB

The English Premier League has 20 clubs. A win is worth 3 points, a draw is worth 1 point, and a loss is worth 0 points.

#	Club	Pts	Last 5
1	Arsenal	85	✓✓✓✓✓
2	Man City	78	—✓✓✓—
3	Man Utd	71	✓✓✓✓✓
4	Aston Villa	65	×××—✓
5	Liverpool	60	✓×—×—
6	Bournemouth	57	—✓✓—
7	Sunderland	54	×——✓✓
8	Brighton	53	✓××✓×
9	Brentford	53	×××—
10	Chelsea	52	××—✓×
11	Fulham	52	✓××—✓
12	Newcastle	49	××—✓×
13	Everton	49	×—×××
14	Leeds	47	—✓—✓×
15	Palace	45	×—×—×
16	Nottm Forest	44	✓✓—×—
17	Spurs	41	✓✓—×✓
18	West Ham	39	✓×××✓
19	Burnley	22	××—×—
20	Wolves	20	×—×—

Figure 1: Example league table showing only points and recent form.

For this problem, the standings are taken immediately after round 35. Therefore, every club has exactly 3 matches left to play before the end of the season.

The club with the highest current score is called the leader. The input is guaranteed to have exactly one leader.

The leader is called a dominant champion if, regardless of what happens in the remaining three matches, it is guaranteed to finish with strictly more points than every other club.

Only points are considered in this problem. Goal difference and all other tie-breaking rules are ignored. A tie for first place is not considered a dominant championship.

For the purpose of this problem, each other club may gain at most 9 additional points from its three remaining matches. The detailed remaining fixture list is not given and does not need to be considered.

Determine whether the current leader is already guaranteed to be the dominant champion.



Input

The input contains exactly 20 lines. Each line contains a club name and its current number of points after round 35.

Club names are written as a single token. Spaces in a club name are replaced by underscores.

The 20 club names are: Arsenal, Man_City, Man_Utd, Aston_Villa, Liverpool, Bournemouth, Sunderland, Brighton, Brentford, Chelsea, Fulham, Newcastle, Everton, Leeds, Palace, Nottm_Forest, Spurs, West_Ham, Burnley, and Wolves.

For every club, $0 \leq \text{points} \leq 105$.

All 20 club names appear exactly once.

There is exactly one club with the maximum current number of points.

Output

Print YES if the current leader is guaranteed to be the dominant champion. Otherwise, print NO.

Sample

Sample 1

Sample Input	Sample Output
Arsenal 82 Man_City 69 Man_Utd 66 Aston_Villa 61 Liverpool 60 Bournemouth 55 Sunderland 52 Brighton 50 Brentford 49 Chelsea 48 Fulham 47 Newcastle 46 Everton 44 Leeds 43 Palace 41 Nottm_Forest 40 Spurs 39 West_Ham 35 Burnley 21 Wolves 19	YES

Explanation:

Arsenal has 82 points. Every other club can gain at most 9 more points. Man_City, the closest challenger, can reach at most $69 + 9 = 78$ points. Therefore Arsenal is guaranteed to finish strictly ahead.

Sample 2

Sample Input	Sample Output
Arsenal 74 Man_City 67 Man_Utd 63 Aston_Villa 59 Liverpool 57 Bournemouth 53 Sunderland 51 Brighton 49 Brentford 48 Chelsea 47 Fulham 45 Newcastle 44 Everton 42 Leeds 41 Palace 40 Nottm_Forest 38 Spurs 37 West_Ham 34 Burnley 20 Wolves 18	NO

Explanation:

Man_City can still reach $67 + 9 = 76$ points, which is greater than Arsenal's current 74 points. Therefore the leader is not yet guaranteed to be the dominant champion.