level 3

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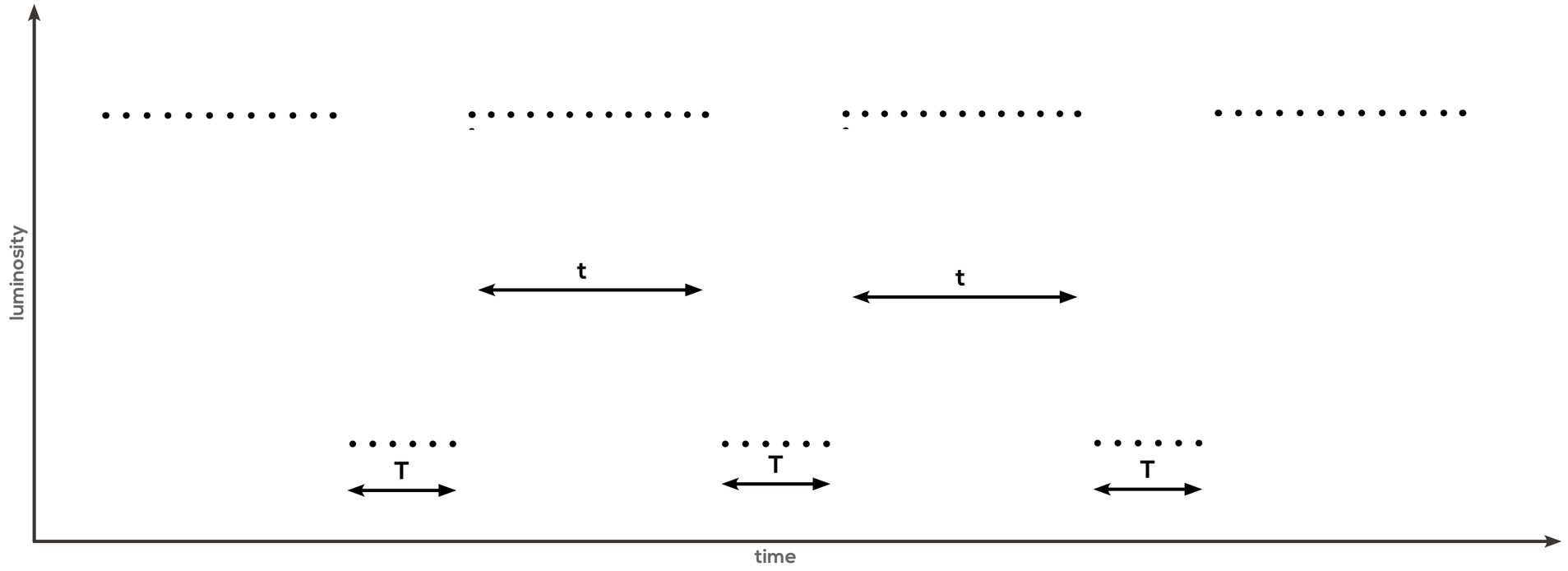
A star has a planet candidate if it has at least 3 transit features that happen periodically.
Your Task: Return YES or NO for each star, indicating, if the star has a planet candidate or not.

Planet candidate: 3 periodic transit features.

T ... duration of transit
t ... time between transits



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Input

- format: same as for level 1
- file: same as for level 1

Input Example

```
2 Star1 33 100 100 75 75 75 75 75 100 100 100 100 100 100 100 75 75 75 75 75 100
100 100 100 100 100 100 75 75 75 75 75 100 100
Star2 38 100 100 98 98 98 98 98 100 100 100 100 100 100 100 102 102 102 102 102
100 100 100 100 100 100 100 98 98 98 98 98 100 100 100 100 100 100 60
```

Output

- Output items are separated by space characters.
- starName1 [YES|NO] starName2 [YES|NO] ... starNamem [YES|NO]
- The output has to be ordered the same way as the input.

Output Example

```
Star1 YES Star2 NO
```

The largest star that we know of (NML Cygni) has a radius of 7.67 astronomical units. That´s more than the distance from the Sun to Jupiter

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Constraints (it is guaranteed that):

- During a single event the luminosity is constant.
- Events do not overlap.
- There is a distance of at least 5 time units between two events.
- An event can last from 1 to 15 time units. (inclusive)
- There is a maximum of 5 events per star
- The first element of the luminosity array is not part of an event.
- **If there is a series of three transit features at time F, F + T + t, F + 2 * (T + t), it is considered to be caused by a planet candidate. It is then guaranteed that the series of transit features continues through the entire list of luminosity values (F + 3 * (T + t), F + 4 * (T + t) etc.).**

One astronomical unit is the average distance between the Sun and the Earth

F...arbitrary point in time `F<t`
T ... duration of transit
t ... time between transits

Remember that:

- **All transit features caused by a planet candidate must have the same length.**
- **All transit features caused by a planet candidate must cause the same brightness change.**

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