




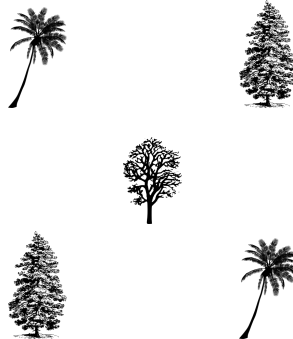


Problem of the Week

Problem E

Going Bananas

A maple tree  is surrounded by two pine trees  and two palm trees , as follows:



Five types of bananas, P, Q, R, S, T are placed in the trees. Each tree has exactly one type of banana in it and there is a different type of banana in each tree. A monkey is hungry and takes the same amount of time to eat any banana. The monkey starts on a tree and begins by eating a banana on that tree. The monkey then swings to another tree and eats a banana on that tree. The monkey then swings to another tree and eats a banana on that tree. This will continue until the monkey stops.

It takes the monkey

- three seconds to swing from the maple tree to any other tree or vice versa,
- two seconds to swing from a pine tree to a palm tree or vice versa, and
- seven seconds to swing between two pine trees or two palm trees while avoiding the maple tree along the way.

The monkey eats bananas of type P, Q, S, R, T, R, P in that order then stops. List all the possible types of banana that can be in the maple tree if the total amount of time the monkey swings is as small as possible.

