

The Poisoned Barrel

Names of students in your group:

Submission: Each student must submit their answer separately in PDF form to Moodle by the end of the class. No email submissions are allowed. Google how to convert a Google doc to a PDF if you haven't done it before.

The Problem

There is a king who wants to throw a party in 48 hours and he wants to serve a total of 1000 barrels of wine at the party. Unfortunately, he knows that one of the barrels has been poisoned and he does not know which one. When consumed, the poison takes between 23 and 24 hours to kill.

Question

The king has 10 prisoners he plans to execute. He decides to use them as taste testers to determine which bottle of wine contains the poison. How can the king administer the wine to the prisoners to ensure that 24 hours from now he is guaranteed to have found the poisoned wine bottle?