**Problem :**

Four people come to a river in the night. There is a narrow bridge, but it can only hold two people at a time. They have one torch and, because it's night, the torch has to be used when crossing the bridge. Person A can cross the bridge in 1 minute, B in 2 minutes, C in 3 minutes, and D in 4 minutes. When two people cross the bridge together, they must move at the slower person's pace. The question is, what is the shortest time at which they can all safely cross the bridge?

**Solution :**





