



Problem-Solving Initiative

The Four Friends

(Difficulty **medium**)

There are four friends that need to cross a bridge to get home. Due to the age of the bridge, only two people can cross at the same time. To make matters worse, it is night-time and there is only one torch. The torch is always required when crossing the bridge and the torch must be walked back and forth, it cannot be thrown, etc.

Each friend walks at a different speed and a pair must walk together at the rate of the slower person:

Mary takes 1 minute to cross

Bill takes 2 minutes to cross

Carl takes 5 minutes to cross

Susan takes 10 minutes to cross

In what sequence can they travel to all get across in the quickest time?



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Answer:

Mary and Bill cross	2 minutes
Mary returns	1 minute
Carl and Susan cross	10 minutes
Bill returns	2 minutes
Mary and Bill cross	2 minutes
Total	17 minutes