Jed, Ned and Ted are antique dealers who conduct their businesses in separate but adjoining rooms of a common premises. Jed's advertised hours are from 12:00 noon until 4:00 p.m., Ned's hours are from 9:00 a.m. until 3:00 p.m. and Ted's are from 1:00 p.m. until 5:00 p.m. Because the dealers have other jobs and the store is never so busy that one individual could not take of everyone's customers, it is in the dealers' interests to pool their time in minding the store; there is no need for two people between noon and 1:00 p.m. or between 3:00 p.m. and 4:00 p.m., or for three people between 1:00 p.m. and 3:00 p.m. Thus, Jed can arrive later than noon or leave earlier than 4:00 p.m., Ted can arrive later that 1:00 p.m. and Ned can leave earlier than 3:00 p.m. But how much later or earlier? What is a fair allocation of store-minding duty for each of the dealers?

This is exercise 10 from Chapter 4 of *An Introduction to Game-Theoretic Modelling*.

Hand in an individual hand written report and be prepared to fully justify it.

You may discuss the solution process with your colleagues but the actual solving should be truly yours.