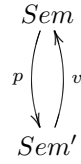


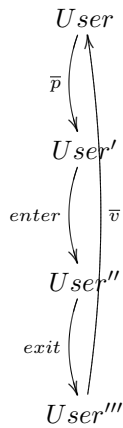
Exercise 2.11 - Solutions

1)

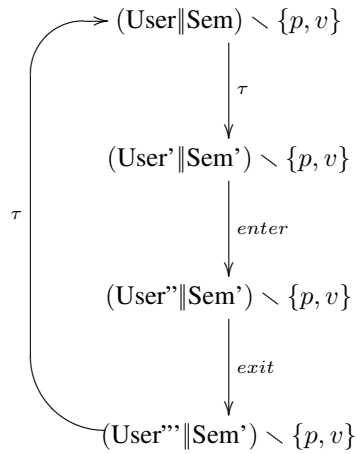
$$\text{Sem} \stackrel{\text{def}}{=} p.v.\text{Sem}$$



$$\text{User} \stackrel{\text{def}}{=} \bar{p}.\text{enter}.\text{exit}.\bar{v}.\text{User}$$

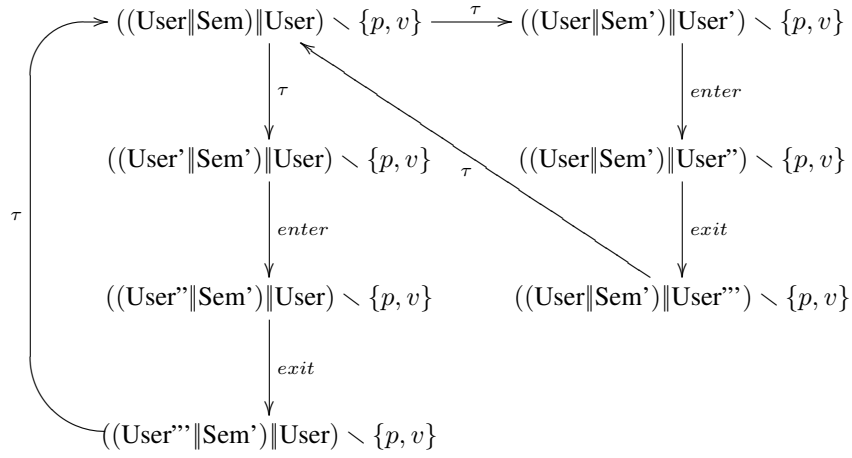


$$\text{Mutex}_1 \stackrel{\text{def}}{=} (\text{User} \parallel \text{Sem}) \setminus \{p, v\}$$

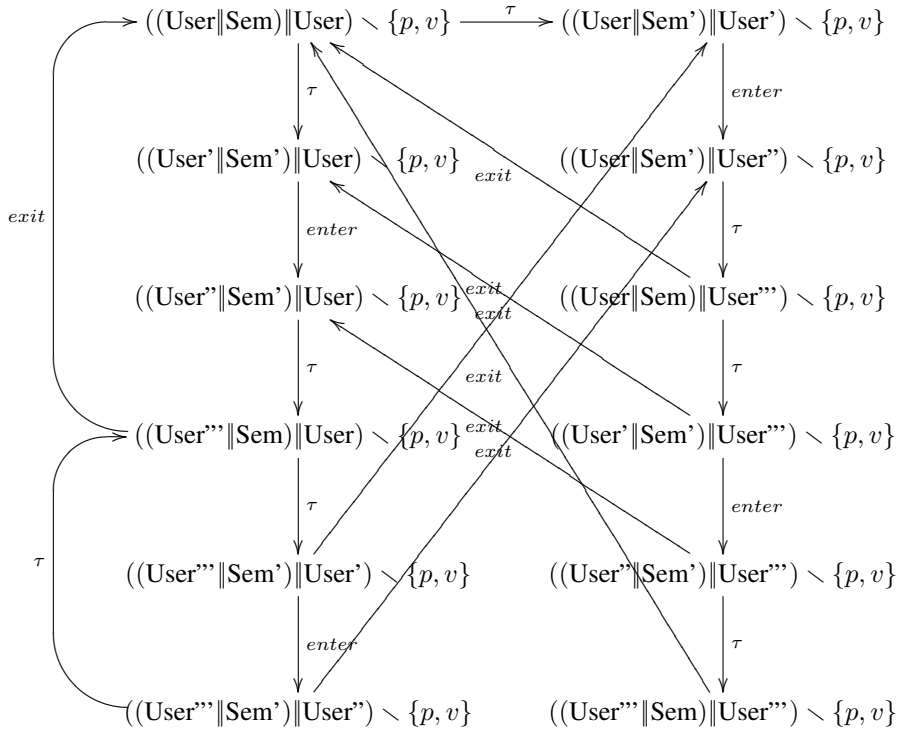
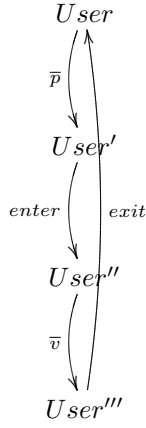


2)

$$\text{Mutex}_2 \stackrel{\text{def}}{=} ((\text{User} \parallel \text{Sem}) \parallel \text{User}) \setminus \{p, v\}$$

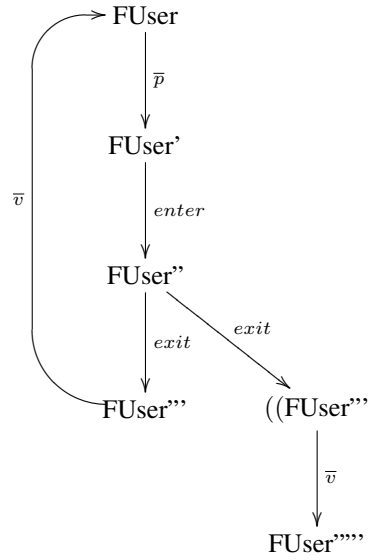


$$User \stackrel{\text{def}}{=} \bar{p}.enter.\bar{v}.exit.User$$



3)

$$\text{FUser} \stackrel{\text{def}}{=} \bar{p}.enter.(exit.\bar{v}.\text{FUser} + exit.\bar{v}.0)$$



$$\text{FMutex} \stackrel{\text{def}}{=} ((\text{Sem} \parallel \text{User}) \parallel \text{FUser}) \setminus \{p, v\}$$

