

207SE Lab 15: IPC and Synchronisation

Your task

1. Modify the given semaphore example code so that the two processes output the Scene below from Macbeth by William Shakespeare, so that one process says Macbeth's lines and the other says Lady MacBeth's lines. As with the actual play on stage, Lady MacBeth says her first line(s), then MacBeth his line(s), the Lady MacBeth her line(s) etc. (Up to 3 marks)
2. Write Lady MacBeth's part to stderr instead of stdout. As well as writing the lines to the screen you should also look at redirecting MacBeth's lines to one file and Lady Macbeth's to another. (Up to 5 marks)

Hint: Try adapting `critical_example2.c`. You will need the `se207_sems.h` code in the same directory to run this code.

Evidence

Commented code to complete tasks 1 and 2 above. Output from the two activities.

LADY MACBETH Donalbain.

MACBETH This is a sorry sight.

LADY MACBETH A foolish thought, to say a sorry sight.

MACBETH There's one did laugh in's sleep, and one cried
'Murder!'
That they did wake each other: I stood and heard them:
But they did say their prayers, and address'd them
Again to sleep.

LADY MACBETH There are two lodged together.

MACBETH One cried 'God bless us!' and 'Amen' the other;
As they had seen me with these hangman's hands.
Listening their fear, I could not say 'Amen,'
When they did say 'God bless us!'

LADY MACBETH Consider it not so deeply.

MACBETH But wherefore could not I pronounce 'Amen'?
I had most need of blessing, and 'Amen'
Stuck in my throat.

LADY MACBETH These deeds must not be thought
After these ways; so, it will make us mad.

MACBETH Methought I heard a voice cry 'Sleep no more!
Macbeth does murder sleep', the innocent sleep,

Sleep that knits up the ravell'd sleeve of care,
The death of each day's life, sore labour's bath,

Balm of hurt minds, great nature's second course,
Chief nourisher in life's feast,--

LADY MACBETH What do you mean?