Sleep(),Finish():Thread.cc

Ready to Run:

接受Terminal端的參數作為execfile,為每個execfile建立一個thread,宣告一個Address space.Fork這個procedure,其中會set register value和load page table register(Execute()),分配Stack空間(StackAllocate),把interrupt關掉後就把Thread放到Read to Run state.

完成Forked procedure,最後current->Finish(),call Sleep(),放棄CPU.

Run to Ready:

將User Program的一個指令抓過來Decode,執行OneTick(),將System跟User都tick++,CheckIfDue會檢查是否有到期的pending interrupt,Yield()找下一個在ready list的thread(FindNextToRun),並把現在這個執行的thread放回ready list重新排隊(ReadyToRun),並做context switch(Sceduler::Run)

Running to Waiting:

發生在I/O或system call.

Read a character typed at the keyboard, Semaphore::P():類似wait(),semaphore value--, ,會把Thread放進queue中(Append), 並call Sleep()把thread Block住,這時候CPU空掉了,要找下一個在readyqueue的thread(FindNextToRun),找不到就idle,最後分配CPU給下一個在ready queue的thread(Run())

Waiting->Ready:

Semaphore::V() 類似Signal() semaphore value++, 並且把Waiting queue的front thread取出來,放回去Ready queue(ReadyToRun())

Running to Terminating:

Exception Handler的SC\_EXIT 執行Finish(),他會call,Sleep(),並且把finishing設成True,這時候找ready queue最前面的thread(FindNextToRun()),最後分配CPU(Run()),前面的fininshing=True在Run()代表最後會刪除這個Thread