type read-write=monitor

var readcount : integer;

write : boolean;

readqueue , writequeue : condition; //申请读和写的队列

procedure startread()

begin

if (write) wait(readqueue) ;

readcount++;

signal(readqueue);

end

procedure endread()

begin

readcount--;

if (readcount==0) signal(writequeue);

end

procedure startwrite()

begin

if (readcount>0 or write) wait(writequeue);

write=true;

end

procedure endwrite()

begin

write=false;

if (readqueue!=NULL) signal(readqueue);

else signal(writequeue);

end

begin

readcount=0;

write=false;

end

reader:

begin

repeat

read-write.startread;

读者读书中

read-write.endread;

until false;

end

writer:

bigin

repeat

read-write.startwrite;

写者写书中

read-write.endwrite;

until false

end