

```

program sleepingbarber;
var
    n: integer;
    s: (* binary *) semaphore;
    delay: (* binary *) semaphore;
procedure producer;
begin
    repeat
        produce;
        wait(s);
        append;
        n := n + 1;
        if n = 0 then signal(delay);
        signal(s)
    forever
end;
procedure consumer;
begin
    repeat
        wait(s);
        n := n - 1;
        if n = -1 then
            begin
                signal(s);
                wait(delay);
                wait(s)
            end;
        take;
        signal(s);
        consume
    forever
end;
begin (* main program *)
    n := 0;
    s := 1;
    delay := 0;
cobegin
    producer; consumer;
coend
end.

```