

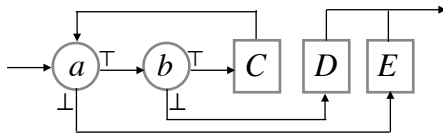
X5.2 Here is a refinement of specification  $S$  .

$S \Leftarrow \mathbf{if } a \mathbf{ then if } b \mathbf{ then } S \mathbf{ else } C \mathbf{ fi else } D \mathbf{ fi}$

Express it using a **while**-loop without the recursive call.

After trying the question, scroll down to the solution.

§ If it helps, here is a flowchart.



We have to duplicate something. I'll duplicate *a* .

**while  $a \wedge b$  do *C* od. if *a* then *D* else *E* fi**