

class Participant:

def run(self):

self.log.info('INIT')

msg = self.chan.recvFrom(self.coordinator, BLOCK, TIMEOUT)

if msg == -1: # Crashed coordinator - give up entirely

decision = LOCAL_ABORT

else: # Coordinator will have sent VOTE_REQUEST

decision = self.do_work()

if decision == LOCAL_ABORT:

self.chan.sendTo(self.coordinator, VOTE_ABORT)

self.log.info('LOCAL_ABORT')

else: # Ready to commit, enter READY state

self.log.info('READY')

self.chan.sendTo(self.coordinator, VOTE_COMMIT)

msg = self.chan.recvFrom(self.coordinator, BLOCK, TIMEOUT)

if msg == -1: # Crashed coordinator - check the others

self.log.info('NEED_DECISION')

self.chan.sendTo(self.participants, NEED_DECISION)

while True:

msg = self.chan.recvFromAny()

if msg[1] in [GLOBAL_COMMIT, GLOBAL_ABORT, LOCAL_ABORT]:

decision = msg[1]

break

else: # Coordinator came to a decision

decision = msg[1]

if decision == GLOBAL_COMMIT:

self.log.info('COMMIT')

else: # decision in [GLOBAL_ABORT, LOCAL_ABORT]:

self.log.info('ABORT')

while True: # Help any other participant when coordinator crashed

msg = self.chan.recvFrom(self.participants)

if msg[1] == NEED_DECISION:

self.chan.sendTo(msg[0], decision)