```c
int countA=0, countB=0；
semaphore mutex=1, muteA=1, mutexB=1;

void east_west() {
    while (1) {
        P(mutexA);
        countA++;
        if (countA==1) P(mutex);
        V(mutexA);
        walk across the bridge from east to west;
        P(mutexA);
        countA--;
        if (countA==0) V(mutex);
        V(mutexA);
    }
}
void west_east() {
    while (1) {
        P(mutexB);
        countB++;
        if (countB==1) P(mutex);
        V(mutexB);
        walk across the bridge from west to east;
        P(mutexB);
        countB--;
        if (countB==0) V(mutex);
        V(mutexB);
    }
}
```