

Determine if each of the following schedules is (a) serial, and/or (b) conflict serializable.

(a) r1(X) r3(X) w1(X) r2(X) w3(X)

(b) r1(X) r3(X) w3(X) w1(X) r2(X)

(c) r3(X) r2(X) w3(X) r1(X) w1(X)

(d) r3(X) r2(X) r1(X) w3(X) w1(X)

(e) r1(A) r2(A) w2(C) r1(B) w1(B) r2(A) w2(C)

(f) w3(X) r1(X) r1(Y) w1(X) r2(A) r2(B) w2(B) w2(X) w3(X)

(g) r1(C) r3(B) r2(B) w3(A) r2(C) w2(D) w1(C) w1(D) w3(C)

(h) r1(R) r2(S) w1(U) r4(T) w5(R) r2(U) w2(U) r3(V) r2(V) w5(R) r3(U) w5(U) r4(R) r5(V) w5(R) r2(U)

(i) r1(x) r2(z) r1(x) r3(x) r3(y) w1(x) w3(y) r2(y) w2(z) w2(y)

(j) r1(x) r2(z) r3(x) r1(z) r2(y) r3(y) w1(x) w2(z) w3(y) w2(y)

(k) r1(x) r2(z) r1(z) r3(x) r3(y) w1(x) w3(y) r2(y) w2(z) w2(y)

**For all these schedules: Prepend begin operations for all transactions. Append end for all transactions, followed by commit for all transactions.**