**Schedules (Histories) of Transactions**

A schedule (or history) S of n transactions T1, T2, …, Tn is an ordering of the operations of the transactions. Operations from different transactions can be interleaved in the schedule S. However, for each transaction Ti that participates in the schedule S, the operations of Ti in S must appear in the same order in which they occur in Ti.

For the purpose of recovery and concurrency control, we are mainly interested in the read\_item and write\_item operations of the transactions, as well as the commit and abort operations. A shorthand notation for describing a schedule uses the symbols b, r, w, e, c and a for the operations begin\_transaction, read\_item, write\_item, end\_transaction, commit and abort, respectively, and appends as a subscript the transaction id (transaction number) to each operation in the schedule.

The schedule which we shall call Sa can be written as follows in this notation:

Sa= r1(x); r2(x); w1(x); r1(y); w2(x); w1(y)

Similarly, the schedule which we call Sb, can be written as follows, if we assume that transaction T1 aborted after its read\_item(y) operation:

Sb= r1(x); w1(x); r2(x); w2(x); r1(y); a1;

**Conflicting operations in a schedule**

Two operations in a schedule are said to conflict if they satisfy all three of the following conditions:

1. They belong to different transactions,
2. They access de same item x,
3. At least one of the operations is a write\_item(x)