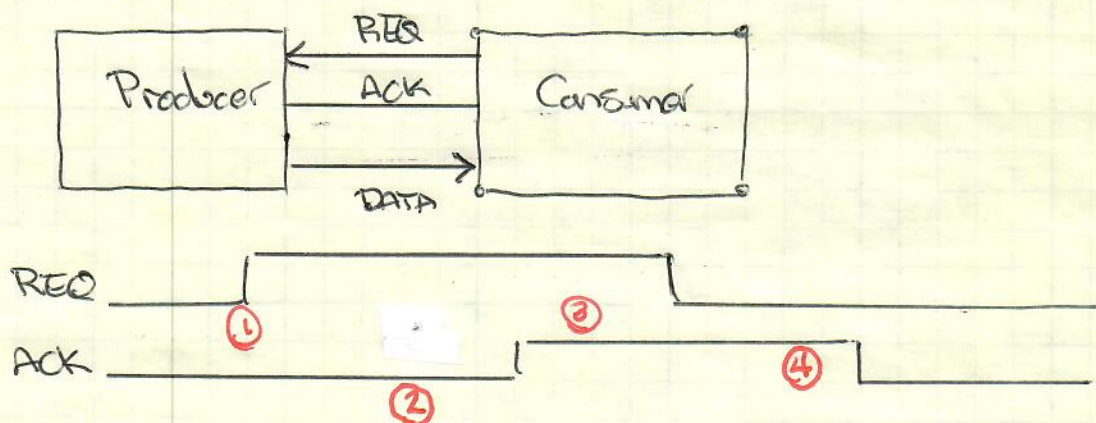2-line handshake is an asynchronous method of data interchange between a producer and consumer (the agents) that relies on 2 signals called request (REQ) and acknowledge (ACK)

- The producer generates data and sends it to the consumer
- The active agent broadcasts a request to transfer data by asserting REQ.
- The passive agent transfers data when requested then acknowledges the request by asserting ACK.

Active Consumer

① Consumer ready for data
② Producer asserts data then asserts ACK
③ Consumer latches data then drops REQ
④ Producer acknowledges Consumers latching data by dropping ACK

Word Statement

Build a digital circuit that is a <u>active</u> consumer of 8-bit data and outputs 1 if the data is an even number. It does this forever.

Algorithm

1. while (1) {
2. REQ = 1;
3. while (ACK == 0);
4. X = data;
5. REQ = 0;
6. while (ACK == 1);
7. output = X[0]';
8. }