Quiz #1 of Computer Networks

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Design a protocol to be used between an automatic teller machine (ATM) and a bank's centralised computer. Your protocol should allow a user's card and password to be verified, the account balance (which is maintained at the bank) to be queried, and an account withdrawal to be made (money is given to the customer). **1. Specify your protocol** by listing the messages exchanged and the action taken by the ATM or the bank's centralised computer on transmission or receipt of each message:

From ATM to Bank	
Message name and arguments	Meaning/Action

From Bank to ATM	
Message name and arguments	Meaning/Action

2. Sketch the operation of your protocol, using a diagram, for the cases of a simple withdrawal **(a)** with no errors, **(b)** with one error.