1-Proof-of-Work and Emails. Suppose you are tasked to review a new proposal to counter spam emails. Whenever a sender wishes to deliver a mail to the receiving SMTP server, the sender has to include a nonce n such that SHA-256(recipient email || subject || n) < 2 240 . The intuition behind that system is that the sender must have invested some work to find the nonce tailored to each recipient and subject. Thus, mass delivery of spam emails would be very costly. Is this an effective countermeasure against such an adversary? Justify your answer. If it is not effective, how could it be improved?

Graphical user interface, text

Description automatically generatedGraphical user interface, text, application

Description automatically generatedGraphical user interface, text, application

Description automatically generated