Task 1.2   
  
The integrity and the authenticity of the file can be assured with an hash function and a combination asymmetric encryption as we have seen in the course.  
The sender sends 2 messages, the first has been hashed and then encrypted with the private key of the sender. The second has been encrypted with the Public key of the receiver.   
The receiver can check the integrity and authenticity by decrypting the hashed message with the public key of the send, and check if it’s equal to the message he received, decrypted with his own private key and hashed with the same function. If the two hashed messages are the same then all is fulfilled.   
  
  
The sender could not deny he has sent the message because he has encrypted the hash message with his own private key that has been decrypted with the public key.