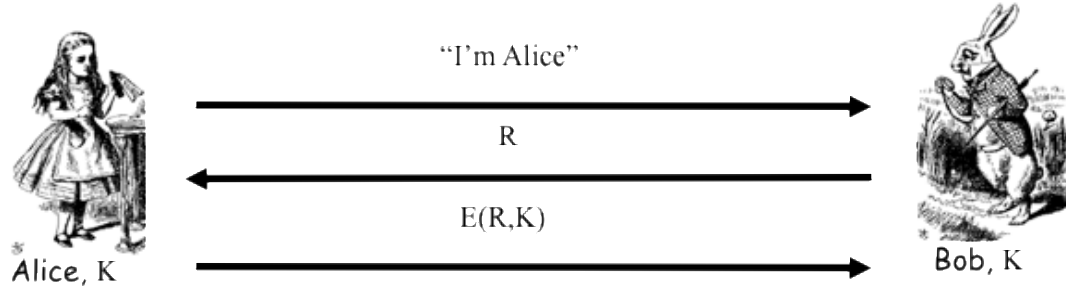


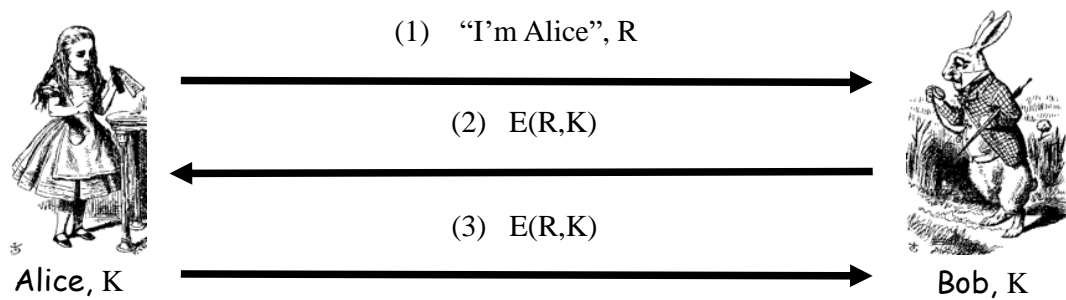
**Tutorial #9**  
**Security in Computing COSC2356/2357**

**Q1. Discuss if the following authentication protocols are secure or not:**

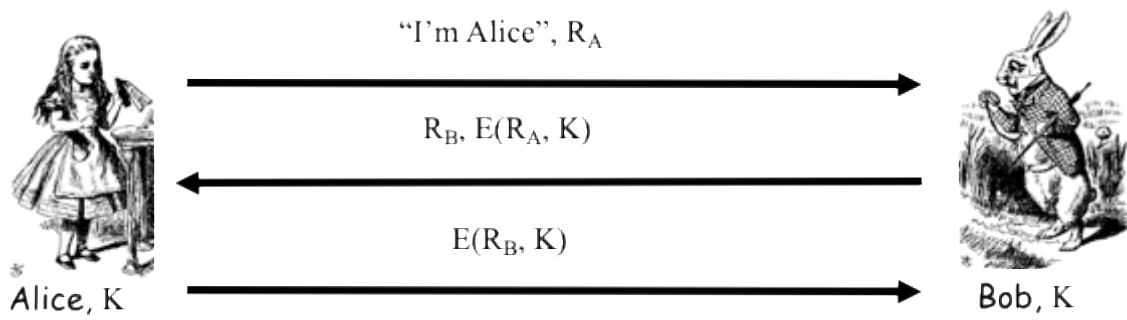
(a)



(b)



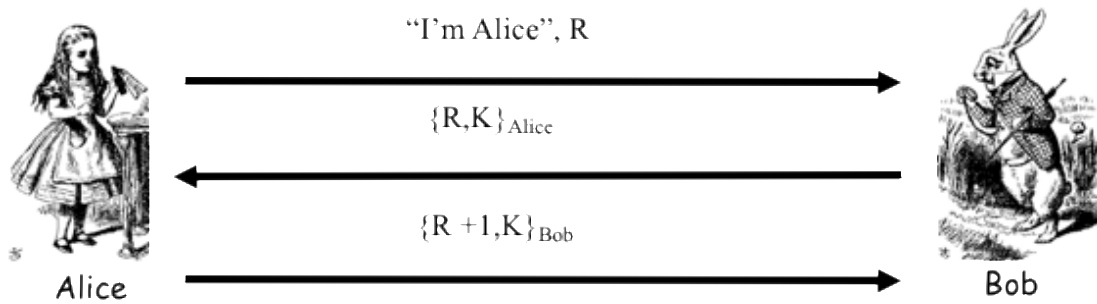
(c)



**Q2. Discuss how can we achieve mutual authentication for the scenario specified in the Q1(c)?**

**Q3. Does the following authentication protocol achieves mutual authentication? Think and discuss:**

(a)



(b)

