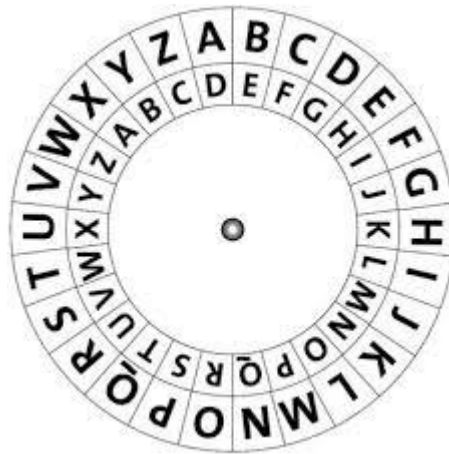


Cryptography

1. Bob and Alice live in distant cities in a country with a corrupt postal service. Bob wants to send Alice a birthday present, but fears that it might be stolen by postal workers. Bob is thinking of sending the gift in a small trunk that has three padlock hasps. He can secure the trunk with a padlock (or more), but then Alice won't be able to open it. He is in the same predicament with the padlock keys. How can he send the gift to his beloved?
2. The following picture shows a Caesar's cipher disk. Use it to decode the message: FZXKALFQ.



3. Matrices are commonly used to encrypt information. We will show you a way of doing this. However, we need to cover some basics first. Take notes if you want. Let's see how far we get!