Programming Problems

Following are 2 Programming Problems. Please read the problem carefully and write a Well Documented, Modular and Testable Program along with Test Cases.

1. Josephus, a Jewish historian living in the 1st century, and his 40 soldiers were trapped in a cave, the exit of which was blocked by Romans. They chose suicide over capture and decided that they would form a circle and start killing themselves using a step of three. Josephus states that by luck or maybe by the hand of God, he and another man remained the last and gave up to the Romans.

   Josephus was a smart person, and he would have been saved because he could compute where he should stand to be the survivor.

   As a software engineer, if you were to compute this place where Josephus should stand, given the group size of N and step on M, how would you do it?

2. Use the basic data structures, design a Cache library, which can be used by other components and applications (similar to any open source library you can download and use).Cache should be bound in size, and it should be possible to configure the eviction policy. Design it in a way that the user of library can implement his own eviction policy and plug it in.