Day 2 Brain Teasers

Batch I - Vikings
Time Limit: 30 Minutes

June 11, 2019

1 Puzzles

1. You have 15 Rs with you. You go to a shop and shopkeeper tells you that the price of 1 chocolate is 1 Rupee. He also tells you that you can get a chocolate in return of 3 wrappers. What is the maximum number of chocolates you can eat ?

   Answer: **22**
   Buy and eat 15 chocolates
   Return 15 wrappers and get 5 more chocolates.
   Return 3 wrappers, get 1 chocolate.
   Now we have 3 wrappers. Return 3 and get 1 more chocolate.
   So total chocolates $= 15 + 5 + 1 + 1 = 22$

2. You have 4 bottles of milk. One of them is poisonous while the other 3 are non-poisonous. There is a rat which dies exactly after 10 hours of drinking the poisoned bottle. You have a clock that measures time only in hours. Suggest an optimal strategy to identify the poisoned bottle within 24 hours.
   Hint: The optimal strategy minimizes the number of hours required to find the poisoned bottle.

   At the beginning of the first hour feed the rat the 1st bottle. At the start of 2nd-hour feed, the 2nd one and similarly at the start of 3rd-hour feed, the 3rd bottle.
   If the rat dies after exactly 10 hrs, the first bottle is poisonous. If it dies after 11 hours, 2nd one contains poison else the 3rd one is poisonous.
   In this way, after exactly **12 hours** you would be able to determine the poisonous bottle.