Backend Engineer Intern Take Home Test

The purpose of this test is to evaluate your technical abilities in a few aspects of software engineering. It allows common grounds for discussion in the interview that takes place after you complete the test. The test is a home test and you are encouraged to use any resources at your disposal - online or consulting friends, etc. Please submit your code via a Github repository and send us link to the Github repo. You should be able to answer these 3 questions within 1 hour.

1. Write a Java program that take a string input and convert it to an integer without using the build-in parse function.
   Example: input value "123", convert it to an integer type with value 123

2. Write a Java program that take a input and detect whether there's integer in there.
   Example: input value "45222" return true, input value "This Is A Test4me" return true, input value "IAMGOOD" return false

3. Please design two new tables to store information about:
   a. products
   b. product price history
   The product tables should include the name and category of the product.
   The product price history table should refer to the product table and should include the price information of products and the start date and/or end date for the product. The current price of a product will have no end date.
   Please list the table creation scripts for these two tables and a sample query to join two tables together.