Programming exercises

Thank you for participating in this exercise. This programming exercise is just a way that we evaluate candidates and we ask all our candidates to go through some form of this. Do ask us for clarifications, bounce ideas off us (we'll help where we can) and feel free to utilize all the resources we have made available. We hope you have fun doing these problems.

Instructions

- There are two parts to this programming exercise. Part A is to be completed in 2 hours and the outputs are to be submitted to us before the end of the time limit. Part B is to be completed in 2 hours.
- Please read through all questions before you start (there may be multiple pages in this document)
- We prefer that you use Python, Ruby, JavaScript. Python code should be pythonic.
- Your code should use good programming practices and conventions including consistent indentation, consistent use of variable/function/class/method naming conventions and comments.
- You are free to use any internet resource that you like. If you copy code from the internet, we will require that you can explain the code completely and also the license under which it was copied.

Part A - Time limit 2 hours

1. Write a simple program that reads a line from the keyboard and outputs the same line where every word is reversed. A word is defined as a continuous sequence of alphanumeric characters or hyphen ('-'). For instance, if the input is

"We are at Ignite Solutions! Their email-id is careers@ignitesol.com"

the output should be

"eW era ta etingI snoituloS! riehT di-liame si sreerac@losetingi.moc"

HINT: Read the problem and the example carefully before starting.

2. If we list all the natural numbers below 10 that are multiples of 3 or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23. Write a program to find the sum of all the multiples of 3 or 5 below 1000. *NOTE: Your code should be elegant.*

3. Each new term in the Fibonacci sequence is generated by adding the previous two terms. By starting with 1 and 2, the first 10 terms will be:

1, 2, 3, 5, 8, 13, 21, 34, 55, 89, ...

By considering the terms in the Fibonacci sequence whose values do not exceed four million, find the sum of the even-valued terms. In other words you need to find the sum of all even

fibonacci numbers below four million. Write a program that is not overly slow, cumbersome or one that takes up unnecessary storage or time.

Part B - Time limit - 2 hours

4. Develop a simple RSS reader. The interface is a web page that accepts an RSS URL and lays it out on a web page in a simple but visually appealing manner. Use Python/Ruby/Javascript and any frameworks for back end processing and feel free to use any javascript/css framework for the front end. Structure your code in a clean folder structure including installation/execution instructions and any web server configurations.

Optional - For additional credit make your working service available in an Heroku/GAE/AWS or an other clould provider instance and send us the link.

You can use the following feed for testing purposes
http://feeds.bbci.co.uk/news/rss.xml