

Suran Systems, Inc. Developer Exam

The purpose of these exercises is to give you, the applicant, an opportunity to demonstrate some core skills that you would use if employed by Suran Systems, Inc. There are no right or wrong answers to these questions, and a job offer will not be extended directly on the basis of your performance in these exercises. The intent is to understand how your unique skills and approach to problem-solving fit with our team and can help us mutually grow.

Please attempt to complete these exercises with any software you have at your disposal. E-mail your answers back to the interviewer for follow-up discussion.

Refactoring (select one)

Inside the provided “Refactoring” folder are four text files with sample code written by the Suran development team. Each code sample is written in a different language and accomplishes different tasks, but they can all use some improvement. Select **one** of these samples and refactor it as you see fit. Don’t worry as much about syntactical accuracy, but instead focus on coding styling and design. Also, enhancing the code to handle validation and edge cases is always good.

FileIO.rb

This ruby script opens a comma-separated text file and writes new lines to it. The file contains a primary key column (ID) which is unique across all lines. There are three additional columns of data, and no two lines can contain duplicate data.

FormatAddress.js

This JavaScript function creates an address block of text with Name, Address Line 1, Address Line 2, City, State and Zip.

Rectangle.txt

This pseudo-code program draws a colorful rectangle on-screen.

SQL.sql

This PL/PGSQL (the native stored procedure language for PostgreSQL) sets a FullName column to the record’s first and last names joined by a space.

Tech Note

Consider the provided Tech Note PDF which details the process to turn on a TV. Your task is to write better instructions.

Modeling

Create a model (diagram) for a home network. This model could be used for troubleshooting purposes. The home network consists of these elements:

- Cable modem
- Wireless router
- Home media server connected over Ethernet
- Two laptops
- Three iPhones
- Two iPads

Interface Design

Create a mock-up of a user interface for creating a user account. The interface should prompt for:

- First Name
- Last Name
- Email address
- Password
- Password Confirmation
- Password Hint

You can target any platform—web, desktop, mobile, responsive—and use any tool to produce the mock-up. Please focus on visual design elements such as color, spacing between elements, clarity of instruction, etc.

Sort

Consider the provided text file called “Sort Me.txt”. Please sort the contents of this file in ascending order by the length of the name, followed by alphabetically. Of particular note is the process you use to accomplish this task.