

Graduate Software Developer

Practical programming exercise

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# Programming exercise

## Introduction

Before the second interview, we would like you to write an application which meets the requirements outlined in section 1.2 below. Please email the source code and instructions of how to run the application to [ljones@securetrading.com](mailto:ljones@securetrading.com) (at least 24 hours before your interview).

Preferably the application should be written in Python or Java (or both). If you prefer to use another Object Oriented language - please let us know beforehand.

## Requirements

The application has the following requirements:

1. The application must accept a single argument/parameter which will be the name of a file on the local disk. For example the program can run from the command line with:

java Program example.txt

1. The application must read the contents of the file and count how many times each letter

(A – Z) appears in the file

1. The output must show the letters and the counts similar to the following:

*A appears 5 times*

*D appears 1 time*

*Z appears 2 times*

Additional credit will be awarded for the following features:

1. The output should show the letters in alphabetical order
2. The output should not show letters that do not appear at all
3. The output should not show characters other than letters

(e.g. do not show the number of times a full stop appears)

1. The output should not distinguish between upper and lower case letters

## Example output

When running the application with example.txt (including in zip file attached to the email) the output should be:

*A appears 2 times*

*C appears 1 time*

*E appears 5 times*

*H appears 1 time*

*I appears 3 times*

*L appears 1 time*

*M appears 1 time*

*N appears 1 time*

*P appears 1 time*

*R appears 1 time*

*S appears 3 times*

*T appears 1 time*

*X appears 2 times*