Programming Test

Coding Specifications

a) For Questions 1 and 2, code can be written in any programming language (Preferably Java, .Net, Python or C++) and for Question 3, only SQL should be used.
b) Code needs to be properly commented. Incomplete or partially commented code will be ignored.
c) Once the code is created and tested, you will need to take screen shots of the results and send them along with the original source code to the following email id – recruiting@bbinsight.com
d) Preference will be given to those programs that have better performance and follow universal coding standards.

Question 1 – Generating Multiple Files

1) Write a program to generate multiple files using a "Template" and a "Data" file.

Using the content present in the **Template** file (**Question_1_Template.txt**), create 5 other files by replacing the fields present in curly braces with those mentioned in the **Data** file (**Question_1_ Data.txt**)

For example **-** Let us assume the template file has the following content - **"Hello {NAME}"** and data file has the below content -

Data file -

"NAME"
"John"
"Tom"
"Mark"
"Mike"
"Peter"

The desired program should create 5 different files with each of them having their respective content,

File name	File content
File 1	"Hello John"
File 2	"Hello Tom"
File 3	"Hello Mark"
File 4	"Hello Mike"
File 5	"Hello Peter"

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Question 2 – Word Frequency Counter

2) **Write a program to identify the top 3 most frequently appearing words along with their frequency (count) in the below mentioned file**

   - **Question_2_Sample_Text**

Please note: Numbers, quotations and other non-alphabetic characters can be ignored.

For example, Sample results for the following paragraph are furnished below,

" *The man we saw saw the saw. It's the right, right?. The first second was alright, but the second second second was tough*."

Word	Frequency
"The"	5
"Second"	4
"Saw"	3

Please note: *Output needs to be printed on the console, in addition to the source code, please provide screen shots of the output.*

Question 3 – SQL – Trucks & Miles

3) **Write SQL programs to retrieve the following information from the Oracle tables "**BBI_BC.**GEOLOCATION" and "**BBI_BC.**TRUCKS"**

   a) **Drivers** who have covered more than **430,000** miles between **January 2010** to **December 2012**

   b) **Trucks** which have consumed more than **100,000** litres of fuel between **January 2009** to **December 2011** and have an average velocity greater than **33 miles/hr**.

Database Connection details

ORACLE Database connection details	
Hostname	orcl.cok3fwhxp8bt.us-west-2.rds.amazonaws.com
Port	1521
SID	ORCL

User id	bbiuser
Password	bbiuser

Database Tables and columns Description

TABLE – BBI_BC.**GEOLOCATION**

Column Name	Description
TRUCKID	Data pertaining to the truck - truck identifier
DRIVERID	Data pertaining to the driver - driver identifier
EVENT	Type of Event during which the truck details were captured, sample values "unsafe tail distance","unsafe following distance" "overspeed","normal","lane departure"
LATITUDE	Latitude coordinates during the data capture
LONGITUDE	Longitude coordinates during the data capture
CITY	Location (city name) of the truck at the time of data capture
STATE	Location (state name) of the truck at the time of data capture
VELOCITY	Velocity(Miles/hour) of the truck at the time of data capture
EVENT_IND	Event indicator
IDLING_IND	Idling Indicator

TABLE – BBI_BC.**TRUCKS**

Column Name	Description
DRIVERID	Data pertaining to the truck - truck identifier
TRUCKID	Data pertaining to the driver - driver identifier
MODEL	Model of the Vehicle, "ford", "volvo", "caterpillar" etc
_MILES	All columns ending with _MILES have values pertaing to the number of miles travelled during the time period. For example the column AUG_2011_MILES has the total number of miles travelled by a driver/truck in the month of August 2011
_GAS	All columns ending with _GAS have values pertaing to the number of litres of fuel consumed during the time period. For example the column AUG_2011_GAS represents the total number of litres consumed by a truck in the month of August 2011