CIPHERED TEXT

FINALLY IF WE ARE TO WIN THE BATTLE THAT IS NOW GOING ON AROUND THE WORLD BETWEEN FREEDOM AND TYRANNY THE DRAMATIC ACHIEVEMENTS IN SPACE WHICH OCCURRED IN RECENT WEEKS SHOULD HAVE MADE CLEAR TO US ALL AS DID THE SPUTNIK IN THE IMPACT OF THIS ADVENTURE ON THE MINDS OF MEN EVERYWHERE WHO ARE ATTEMPTING TO MAKE A DETERMINATION OF WHICH ROAD THEY SHOULD TAKE SINCE EARLY IN MY TERM OUR EFFORTS IN SPACE HAVE BEEN UNDER REVIEW WITH THE ADVICE OF THE VICE PRESIDENT WHO IS CHAIRMAN OF THE NATIONAL SPACE COUNCIL WE HAVE EXAMINED WHERE WE ARE STRONG AND WHERE WE ARE NOT WHERE WE MAY SUCCEED AND WHERE WE MAY NOT NOW IT IS TIME TO TAKE LONGER STRIDESTIME FOR A GREAT NEW AMERICAN ENTERPRISETIME FOR THIS NATION TO TAKE A CLEARLY LEADING ROLE IN SPACE ACHIEVEMENT WHICH IN MANY WAYS MAY HOLD THE KEY TO OUR FUTURE ON EARTH I BELIEVE WE POSSESS ALL THE RESOURCES AND TALENTS NECESSARY BUT THE FACTS OF THE MATTER ARE THAT WE HAVE NEVER MADE THE NATIONAL DECISIONS OR MARSHALLED THE NATIONAL RESOURCES REQUIRED FOR SUCH LEADERSHIP WE HAVE NEVER SPECIFIED LONGRANGE GOALS ON AN URGENT TIME SCHEDULE OR MANAGED OUR RESOURCES AND OUR TIME SO AS TO INSURE THEIR FULFILLMENT RECOGNIZING THE HEAD START OBTAINED BY THE SOVIETS WITH THEIR LARGE ROCKET ENGINES WHICH GIVES THEM MANY MONTHS OF LEADTIME AND RECOGNIZING THE LIKELIHOOD THAT THEY WILL EXPLOIT THIS LEAD FOR SOME TIME TO COME IN STILL MORE IMPRESSIVE SUCCESSES WE NEVERTHELESS ARE REQUIRED TO MAKE NEW EFFORTS ON OUR OWN FOR WHILE WE CANNOT GUARANTEE THAT WE SHALL ONE DAY BE FIRST WE CAN GUARANTEE THAT ANY FAILURE TO MAKE THIS EFFORT WILL MAKE US LAST WE TAKE AN ADDITIONAL RISK BY MAKING IT IN FULL VIEW OF THE WORLD BUT AS SHOWN BY THE FEAT OF ASTRONAUT SHEPARD THIS VERY RISK ENHANCES OUR STATURE WHEN WE ARE SUCCESSFUL BUT THIS IS NOT MERELY A RACE SPACE IS OPEN TO US NOW AND OUR EAGERNESS TO SHARE ITS MEANING IS NOT GOVERNED BY THE EFFORTS OF OTHERS WE GO INTO SPACE BECAUSE WHATEVER MANKIND MUST UNDERTAKE FREE MEN MUST FULLY SHARE I THEREFORE ASK THE CONGRESS ABOVE AND BEYOND THE INCREASES I HAVE EARLIER REQUESTED FOR SPACE ACTIVITIES TO PROVIDE THE FUNDS WHICH ARE NEEDED TO MEET THE FOLLOWING NATIONAL GOALS FIRST I BELIEVE THAT THIS NATION SHOULD COMMIT ITSELF TO ACHIEVING THE GOAL BEFORE THIS DECADE IS OUT OF LANDING A MAN ON THE MOON AND RETURNING HIM SAFELY TO THE EARTH NO SINGLE SPACE PROJECT IN THIS PERIOD WILL BE MORE IMPRESSIVE TO MANKIND OR MORE IMPORTANT FOR THE LONGRANGE EXPLORATION OF SPACE AND NONE WILL BE SO DIFFICULT OR EXPENSIVE TO ACCOMPLISH WE PROPOSE TO ACCELERATE THE DEVELOPMENT OF THE APPROPRIATE LUNAR SPACE CRAFT WE PROPOSE TO DEVELOP ALTERNATE LIQUID AND SOLID FUEL BOOSTERS MUCH LARGER THAN ANY NOW BEING DEVELOPED UNTIL CERTAIN WHICH IS SUPERIOR WE PROPOSE ADDITIONAL FUNDS FOR OTHER ENGINE DEVELOPMENT AND FOR UNMANNED EXPLORATIONSEXPLORATIONS WHICH ARE PARTICULARLY IMPORTANT FOR ONE PURPOSE WHICH THIS NATION WILL NEVER OVERLOOK THE SURVIVAL OF THE MAN WHO FIRST MAKES THIS DARING FLIGHT BUT IN A VERY REAL SENSE IT WILL NOT BE ONE MAN GOING TO THE MOONIF WE MAKE THIS JUDGMENT AFFIRMATIVELY IT WILL BE AN ENTIRE NATION FOR ALL OF US MUST WORK TO PUT HIM THERE SECONDLY AN ADDITIONAL MILLION DOLLARS TOGETHER WITH MILLION DOLLARS ALREADY AVAILABLE WILL ACCELERATE DEVELOPMENT OF THE ROVER NUCLEAR ROCKET THIS GIVES PROMISE OF SOME DAY PROVIDING A MEANS FOR EVEN MORE EXCITING AND AMBITIOUS EXPLORATION OF SPACE PERHAPS BEYOND THE MOON PERHAPS TO THE VERY END OF THE SOLAR SYSTEM ITSELF THIRD AN ADDITIONAL MILLION DOLLARS WILL MAKE THE MOST OF OUR PRESENT LEADERSHIP BY ACCELERATING THE USE OF SPACE SATELLITES FOR WORLDWIDE COMMUNICATIONS FOURTH AN ADDITIONAL MILLION DOLLARSOF WHICH MILLION DOLLARS IS FOR THE WEATHER BUREAUWILL HELP GIVE US AT THE EARLIEST POSSIBLE TIME A SATELLITE SYSTEM FOR WORLDWIDE WEATHER OBSERVATION LET IT BE CLEARAND THIS IS A JUDGMENT WHICH THE MEMBERS OF THE CONGRESS MUST FINALLY MAKELET IT BE CLEAR THAT I AM ASKING THE CONGRESS AND THE COUNTRY TO ACCEPT A FIRM COMMITMENT TO A NEW COURSE OF ACTION A COURSE WHICH WILL LAST FOR MANY YEARS AND CARRY VERY HEAVY COSTS MILLION DOLLARS IN FISCAL AN ESTIMATED SEVEN TO NINE BILLION DOLLARS ADDITIONAL OVER THE NEXT FIVE YEARS IF WE ARE TO GO ONLY HALF WAY OR REDUCE OUR SIGHTS IN THE FACE OF DIFFICULTY IN MY JUDGMENT IT WOULD BE BETTER NOT TO GO AT ALL NOW THIS IS A CHOICE WHICH THIS COUNTRY MUST MAKE AND I AM CONFIDENT THAT UNDER THE LEADERSHIP OF THE SPACE COMMITTEES OF THE CONGRESS AND THE APPROPRIATING COMMITTEES THAT YOU WILL CONSIDER THE MATTER CAREFULLY IT IS A MOST IMPORTANT DECISION THAT WE MAKE AS A NATION BUT ALL OF YOU HAVE LIVED THROUGH THE LAST FOUR YEARS AND HAVE SEEN THE SIGNIFICANCE OF SPACE AND THE ADVENTURES IN SPACE AND NO ONE CAN PREDICT WITH CERTAINTY WHAT THE ULTIMATE MEANING WILL BE OF MASTERY OF SPACE I BELIEVE WE SHOULD GO TO THE MOON BUT I THINK EVERY CITIZEN OF THIS COUNTRY AS WELL AS THE MEMBERS OF THE CONGRESS SHOULD CONSIDER THE MATTER CAREFULLY IN MAKING THEIR JUDGMENT TO WHICH WE HAVE GIVEN ATTENTION OVER MANY WEEKS AND MONTHS BECAUSE IT IS A HEAVY BURDEN AND THERE IS NO SENSE IN AGREEING OR DESIRING THAT THE UNITED STATES TAKE AN AFFIRMATIVE POSITION IN OUTER SPACE UNLESS WE ARE PREPARED TO DO THE WORK AND BEAR THE BURDENS TO MAKE IT SUCCESSFUL IF WE ARE NOT WE SHOULD DECIDE TODAY AND THIS YEAR THIS DECISION DEMANDS A MAJOR NATIONAL COMMITMENT OF SCIENTIFIC AND TECHNICAL MANPOWER MATERIEL AND FACILITIES AND THE POSSIBILITY OF THEIR DIVERSION FROM OTHER IMPORTANT ACTIVITIES WHERE THEY ARE ALREADY THINLY SPREAD IT MEANS A DEGREE OF DEDICATION ORGANIZATION AND DISCIPLINE WHICH HAVE NOT ALWAYS CHARACTERIZED OUR RESEARCH AND DEVELOPMENT EFFORTS IT MEANS WE CANNOT AFFORD UNDUE WORK STOPPAGES INFLATED COSTS OF MATERIAL OR TALENT WASTEFUL INTERAGENCY RIVALRIES OR A HIGH TURNOVER OF KEY PERSONNEL NEW OBJECTIVES AND NEW MONEY CANNOT SOLVE THESE PROBLEMS THEY COULD IN FACT AGGRAVATE THEM FURTHERUNLESS EVERY SCIENTIST EVERY ENGINEER EVERY SERVICEMAN EVERY TECHNICIAN CONTRACTOR AND CIVIL SERVANT GIVES HIS PERSONAL PLEDGE THAT THIS NATION WILL MOVE FORWARD WITH THE FULL SPEED OF FREEDOM IN THE EXCITING ADVENTURE OF SPACE

PMR: This project was hard in my opinion. The code was easy but my files were not reading. I did not enjoy the amount of code I had to type for this project. The lesson did help though.

CONVERT

import java.io.File;

import java.io.FileNotFoundException;

import java.util.HashMap;

import java.util.Scanner;

/\*

\* By Anika Jallipalli

\* Date: 2/20/2020

\* Purpose: Perform a frequency analysis of the letters in a message and use the results to decipher a secret message.

\*

\* PMR in README.txt

\*/

public class Convert

{

//variables

private HashMap<Character, Character> key = new HashMap();

private String input;

public String converted;

//initialize the cipher key

public void initializeKey()

{

key.put('z', 'e');

key.put('i', 't');

key.put('q', 'h');

key.put('k', 'a');

key.put('a', 'i');

key.put('o', 'f');

key.put('w', 'n');

key.put('s', 'l');

key.put('r', 'y');

key.put('m', 'b');

key.put('y', 'o');

key.put('f', 's');

key.put('n', 'm');

key.put('j', 'w');

key.put('x', 'r');

key.put('v', 'd');

key.put('g', 'c');

key.put('p', 'v');

key.put('h', 'u');

key.put('t', 'g');

key.put('b', 'p');

key.put('e', 'k');

key.put('l', 'x');

key.put('d', 'q');

key.put('u', 'z');

key.put('c', 'j');

}

//getters

//constructor

Convert(String fileName) throws FileNotFoundException

{

initializeKey();

readFromFile(fileName);

converted = convert();

}

//other methods

//read from text file

public String readFromFile(String fileName) throws FileNotFoundException

{

String returnString = "";

//file input

File input = new File(fileName);

Scanner fileReader = new Scanner(input);

while(fileReader.hasNextLine())

{

returnString += fileReader.nextLine().toLowerCase();

}

this.input = returnString;

return returnString;

}

//convert the text using the cipher

public String convert()

{

String myInput = input;

String returnString = "";

for(char c : input.toCharArray())

{

if(c == ' ')

{

returnString += " ";

}

else if(key.containsKey(c))

{

returnString += key.get(c);

}

else

{

returnString += c;

}

}

return returnString;

}

}

CONVERTTESTER

import java.io.FileNotFoundException;

import java.io.PrintWriter;

import java.util.HashMap;

/\*

\* By Anika Jallipalli

\* Date: 2/20/2020

\* Purpose: Perform a frequency analysis of the letters in a message and use the results to decipher a secret message.

\*

\* PMR in README.txt

\*/

public class ConvertTester

{

public static void main(String[] args) throws FileNotFoundException

{

//new conversion object from a specified text file

Convert convert = new Convert("ciphertext.txt");

//print out the converted text and write it to a file

System.out.println(convert.converted);

PrintWriter writer = new PrintWriter("Decrypted.txt");

writer.println(convert.converted);

//close the printer

writer.close();

}

}

FREQUENCYANALYSIS

/\*

\* By Anika Jallipalli

\* Date: 2/20/2020

\* Purpose: Perform a frequency analysis of the letters in a message and use the results to decipher a secret message.

\*

\* PMR in README.txt

\*/

import java.io.\*;

import java.util.HashMap;

import java.util.Scanner;

public class FrequencyAnalysis

{

//variables

private final char[] normalAlphabet = {'a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', 't', 'u', 'v', 'w', 'x', 'y', 'z'};

private HashMap<Character, Integer> frequency = new HashMap();

private int[] frequencies = new int[normalAlphabet.length];

private String input;

private int numberOfCharacters;

private String inputFileName;

//getters

public int[] getFrequencies()

{

return frequencies;

}

//constructor

FrequencyAnalysis(String inputFileName)

{

this.numberOfCharacters = 0;

this.inputFileName = inputFileName;

}

//other methods

//read from text file

public String readFromFile(String fileName) throws FileNotFoundException

{

String returnString = "";

//file input

File input = new File(fileName);

Scanner fileReader = new Scanner(input);

while(fileReader.hasNext())

{

returnString += fileReader.next().toLowerCase();

}

this.input = returnString;

return returnString;

}

//find the frequency of each letter

public void findFrequency()

{

//check if the input has been read from the files

if(this.input != null)

{

int totalCharacters = 0;

//loop over every character in the hashmap

for(int i = 0; i < input.length(); i++)

{

char character = input.charAt(i);

//if the character is in the alphabet

if((int)character >= 97 && (int)character <= 122)

{

//add one to the total characters

totalCharacters++;

//if this character is in the hashMap

if(frequency.containsKey(character))

{

//add one to the current key

frequency.put(character, frequency.get(character) + 1);

}

else

{

frequency.put(character, 1);

}

}

}

numberOfCharacters = totalCharacters;

}

}

//print frequency map

public void printFreqMap()

{

System.out.println(frequency);

}

//write results to a text file

public void writeToFile(String filename) throws FileNotFoundException

{

//create a printwriter to write to a text file

PrintWriter write = new PrintWriter(filename);

write.println(inputFileName);

System.out.println(inputFileName);

//for each letter in the alphabet, print its occurrence and frequency

for(int i = 0; i < normalAlphabet.length; i++)

{

//alphabet letter, occurrence of that letter, and percentage of total occurrence

char letter = normalAlphabet[i];

int occurences = 0;

if(frequency.containsKey(letter))

{

occurences = frequency.get(letter);

}

double percentage = ((double)occurences / (double)numberOfCharacters) \* 100;

//write line to file

write.printf("%c, x%-6d, %% %-10.3f %n", letter, occurences, percentage);

System.out.printf("%c, x%-6d, %% %-10.3f %n", letter, occurences, percentage);

}

write.close();

}

}

FREQUENCYANALYSISTESTER

import java.io.FileNotFoundException;

/\*

\* By Anika Jallipalli

\* Date: 2/20/2020

\* Purpose: Perform a frequency analysis of the letters in a message and use the results to decipher a secret message.

\*

\* PMR in README.txt

\*/

public class FrequencyAnalysisTester

{

public static void main(String[] args) throws FileNotFoundException

{

//plaintext

String plainTextFile = "plaintext.txt";

FrequencyAnalysis plainText = new FrequencyAnalysis(plainTextFile);

plainText.readFromFile(plainTextFile);

plainText.findFrequency();

plainText.writeToFile("plaintextfreq.txt");

System.out.println("==================================");

//ciphertext

String cipherTextFile = "cipherText.txt";

FrequencyAnalysis cipherText = new FrequencyAnalysis(cipherTextFile);

cipherText.readFromFile(cipherTextFile);

cipherText.findFrequency();

cipherText.writeToFile("ciphertextfreq.txt");

}

}