**// Design**



**//Code**

import java.util.Scanner;

public class MorseCodeTranslator {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.println("Choose the translation direction:");

System.out.println("1. Morse code to English");

System.out.println("2. English to Morse code");

int choice = scanner.nextInt();

scanner.nextLine(); // Consume the newline character

if (choice == 1) {

System.out.println("Enter Morse code separated by spaces and | for words:");

String morseCode = scanner.nextLine();

String englishTranslation = morseToEnglish(morseCode);

System.out.println("English Translation: " + englishTranslation);

} else if (choice == 2) {

System.out.println("Enter English text separated by spaces:");

String englishText = scanner.nextLine();

String morseTranslation = englishToMorse(englishText);

System.out.println("Morse Code Translation: " + morseTranslation);

} else {

System.out.println("Invalid choice.");

}

}

// Define Morse code and English letter arrays

private static final String[] morseCode = {

".-", "-...", "-.-.", "-..", ".", "..-.", "--.", "....", "..", ".---",

"-.-", ".-..", "--", "-.", "---", ".--.", "--.-", ".-.", "...", "-",

"..-", "...-", ".--", "-..-", "-.--", "--..", "-----", ".----", "..---",

"...--", "....-", ".....", "-....", "--...", "---..", "----.", "-----"

};

private static final String[] englishLetters = {

"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",

"0", "1", "2", "3", "4", "5", "6", "7", "8", "9"

};

/\*\*

\* Translates Morse code to English.

\*

\* @param morseCodeStr The input Morse code to be translated.

\* @return The translated English text.

\*/

private static String morseToEnglish(String morseCodeStr) {

StringBuilder englishTranslation = new StringBuilder();

String[] words = morseCodeStr.split(" [\\|](file://\\|\) ");

for (String word : words) {

String[] morseChars = word.split(" ");

for (String morseChar : morseChars) {

int index = -1;

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

if (morseCode[i].equals(morseChar)) {

index = i;

break;

}

}

if (index != -1) {

englishTranslation.append(englishLetters[index]);

}

}

englishTranslation.append(" ");

}

return englishTranslation.toString().trim();

}

/\*\*

\* Translates English text to Morse code.

\*

\* @param englishText The input English text to be translated.

\* @return The translated Morse code.

\*/

private static String englishToMorse(String englishText) {

StringBuilder morseTranslation = new StringBuilder();

String[] words = englishText.split(" ");

for (String word : words) {

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

char ch = word.charAt(i);

if (Character.isLetter(ch)) {

int index = Character.toUpperCase(ch) - 'A';

morseTranslation.append(morseCode[index]).append(" ");

} else if (Character.isDigit(ch)) {

int index = ch - '0' + 26;

morseTranslation.append(morseCode[index]).append(" ");

}

}

morseTranslation.append("| ");

}

return morseTranslation.toString().trim();

}//end class

}//end main

**//Output**

