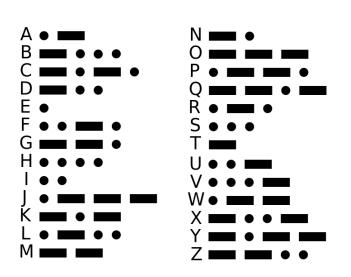


## Java Software Development Homework 4

Deadline: 2016/04/07 23:00

- Write a program to encode or decode Morse Code.
- A Morse Code is composed of the following five elements:
  - 1. Short mark, dot or dit (.): **1**
  - 2. Longer mark, dash or dah (-): **111**
  - 3. Intra-character gap (between the dots and dashes within a character): 0
  - 4. Short gap (between letters): 000
  - 5. Medium gap (between words): 0000000

```
Java GO
. - - - . -
10111011101111000101111000
. . . - . -
1010101110001011110000000
- - - . - -
11101110100011101111
```



- The first input (args[0]) is a Morse Code table. The second input (args[1]) is the mode (encode/decode) to execute. The third input (args[2]) is the string to be translated.
- The format of the first input:
  - A=Code<sub>1</sub>; B=Code<sub>2</sub>; ...; Z=Code<sub>26</sub>;
  - e.g. A=.-; B=-..; Z=--..;
- The Morse Code is case-insensitive. You can assume that the string to be encoded only contains English alphabets.
- You should check whether the string to be decoded is valid or not.
- Define a class MorseCode with two methods:
  - encode(String): String
    - > Encodes English words to a Morse Code sequence
  - decode(String): String
    - Decodes a Morse Code sequence to English words

| Input 1 (args[0]) | A=;B=;C=;D=;E=.;F=;G=;H=;I=;J=<br>;K=;L=;M=;N=;O=;P=;Q=;R=<br>.;S=;T=-;U=;V=;W=;X=;Y=;Z=; |
|-------------------|---|
| Input 2 (args[1]) | encode  |
| Input 3 (args[2]) | Java Go   |
| Output            | 10111011101110001011100010101111000101110000  |

| Input 1 (args[0]) | A=;B=;C=;D=;E=.;F=;G=;H=;I=;J=<br>;K=;L=;M=;N=;O=;P=;Q=;R=<br>.;S=;T=-;U=;V=;W=;X=;Y=;Z=; |
|-------------------|---|
| Input 2 (args[1]) | decode  |
| Input 3 (args[2]) | 1011101110111000101110001010111000101110000   |
| Output            | JAVA GO   |

| Input 1 (args[0]) | A=;B=;C=;D=;E=.;F=;G=;H=;I=;J=<br>;K=;L=;M=;N=;O=;P=;Q=;R=<br>.;S=;T=-;U=;V=;W=;X=;Y=;Z=; |
|-------------------|---|
| Input 2 (args[1]) | decode  |
| Input 3 (args[2]) | 1011101110111000101110001010111000101110000   |
| Output            | *INVALID*   |

## Scoring Criteria

- Correctness: 80%
  - Note that TA will test your program with more than one test case.
- Coding standards: 20%
- Plagiarism is strictly forbidden

## Submission

- Please archive your source code to STUDENT\_ID.zip and upload to Moodle before deadline
- Your zip file should follow the format depicted in the document "Java Online Judge System Manual.pdf"
- Remember to test your code on *Java Online Judge System* before uploading to Moodle
- No late submission is accepted

If you have any problem about this homework, please contact TA: 林孝融 (XavierLinX@gmail.com)