```c
 1 #include <stdio.h>
 2 #include <string.h>
 3
 4 /*  Assignment 3
 5     Abdullah Karson
 6     Date: 03/07/2020*/
 7
 8 #define INPUT_LENGTH32 32
 9 #define INPUT_LENGTH256 256
10
11 const char alphabet[] = {' ','A','B','C','D','E','F','G','H','I',
12                  'J','K','L','M','N','O','P','Q','R',
13                  'S','T','U','V','W','X','Y','Z','\0'};
14
15 const char *morse_code[] = {" ",".-", "-...", "-.-.", "-..", ".", "..-.",
16                  "--.", "....", "..", ".---", "-.-", ".-..",
17                  "--","-.", "---", ".--.", "--.-", ".-.",
18                  "...", "-", "..-", "...-", ".--", "-..-",
19                  "-.--", "--..","\0"};
20
21 void word_to_morse(char *usr_array){
22     /*change user input to morse code*/
23     for (int i = 0; i < strlen(usr_array); i++) {
24         printf("%c ",usr_array[i]);
25         /*finding the corresponding morse code*/
26         for (int j = 0; j <strlen(alphabet); j++){
27             /*retrieving the corresponding alphabet position*/
28             if (usr_array[i] == alphabet[j]){
29                 printf("\t%s\n", morse_code[j]);break;
30             }
31         }
32     }
33 }
34
35 void morse_to_word(char *coded_morse){
36     char buffer[256];
37     char *buf_ptr = buffer;
38
39     /*change users morse code input to letters and complete words*/
40     for (int i=0; i<strlen(coded_morse); i++) {
41         *buf_ptr = coded_morse[i];
42
43         /*take the morse code that is divided by space and append its position to the
   buffer*/
44         if (coded_morse[i] == ' ') {
45             *buf_ptr = '\0';
46             buf_ptr = buffer;
47             printf("%s", buffer);
48             /*retrieving the corresponding morse code position*/
49             for (int j = 0; j < sizeof(morse_code); j++) {
50                 if (strcmp(buffer, morse_code[j]) == 0) {
51                     printf("\t%c\n", (alphabet[j]));
52                     break;
53                 }
54             }
55         }else { buf_ptr++; }
56     }
57 }
58
59 int main() {
60
61     /* User is only allowed to enter 32 Characters, for simplicity sake
62      *  - limit located in the define as (INPUT_LENGTH)*/
63     char message[INPUT_LENGTH32];
64     char coded_stream[INPUT_LENGTH256];
65
66     printf("Enter the message: ");
```

```
67        gets(message);
68        printf("\n");
69
70        word_to_morse(message);
71
72        printf("\n-----------------------\n");
73
74        printf("Enter the coded stream:");
75        gets(coded_stream);
76        printf("\n");
77
78        morse_to_word(coded_stream);
79
80        return 0;
81 }
```