G52CPP Lab Exercise: Hangman game Examples (Version 1.0)

1 Overview

This document contains examples for different input for the Hangman game Lab Exercise.

2 Example of a normal execution

Note that the random seed that is used is reported to the user at the start of the output. The same random seed may then be used later (using the -s<SEED> command line argument) to generate the same secret code without having to know the secret code itself. This random seed will be used in the next example to generate the same secret code. Please note that, if you use the seed number shown below, you may get different results to those in the example, because the results depend upon the compiler and the version of the standard C library which you are using.

This example shows the welcome message on starting the program and then asks the player to guess the word. The player has a number of guesses, eventually gets the word, then exits the program using the ! command.

```
bann$ ./cppcw1
Welcome to CPP Hangman (G52CPP Lab Exercise)
Random seed was 1255022103
Load dictionary from file: '/usr/dict/words''
20068 words with max length 22
Guess the word : '----'
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:a
*** Wrong! You are permitted another 9 wrong guesses before you lose.
Guess the word : ^{\prime} ----^{\prime}
Available : -BCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far : A
9 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:e
*** Wrong! You are permitted another 8 wrong guesses before you lose.
Guess the word : '----'
```

```
: -BCD-FGHIJKLMNOPQRSTUVWXYZ
Available
Guessed so far : AE
8 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:i
*** Wrong! You are permitted another 7 wrong guesses before you lose.
Guess the word : '----'
          : -BCD-FGH-JKLMNOPQRSTUVWXYZ
Guessed so far : AEI
7 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:o
*** Yes! '0' exists in the secret word. First match has been labelled.
*** You have 3 letters still to guess.
Guess the word : '--o-'
          : -BCD-FGH-JKLMNOPQRSTUVWXYZ
Available
Guessed so far : AEIO
7 more wrong guesses permitted.
Type the letter of your guess and {\tt ENTER/RETURN:} u
*** Wrong! You are permitted another 6 wrong guesses before you lose.
Guess the word : '--o-'
Available
            : -BCD-FGH-JKLMNOPQRST-VWXYZ
Guessed so far : AEIOU
6 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:s
*** Wrong! You are permitted another 5 wrong guesses before you lose.
Guess the word : '--o-'
          : -BCD-FGH-JKLMNOPQR-T-VWXYZ
Available
Guessed so far : AEIOUS
5 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:t
*** Wrong! You are permitted another 4 wrong guesses before you lose.
Guess the word : '--o-'
Available : -BCD-FGH-JKLMNOPQR---VWXYZ
Guessed so far : AEIOUST
4 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:b
*** Wrong! You are permitted another 3 wrong guesses before you lose.
```

: --CD-FGH-JKLMNOPQR---VWXYZ

Guess the word : '--o-'

```
Guessed so far : AEIOUSTB
3 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:d
*** Wrong! You are permitted another 2 wrong guesses before you lose.
Guess the word : '--o-'
Available : --C--FGH-JKLMNOPQR---VWXYZ
Guessed so far : AEIOUSTBD
2 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:1
*** Yes! 'L' exists in the secret word. First match has been labelled.
*** You have 2 letters still to guess.
Guess the word : '-lo-'
          : --C--FGH-JKLMNOPQR---VWXYZ
Available
Guessed so far : AEIOUSTBDL
2 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:t
That letter is no longer available.
Guess the word : '-lo-'
          : --C--FGH-JKLMNOPQR---VWXYZ
Available
Guessed so far : AEIOUSTBDL
2 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:f
*** Yes! 'F' exists in the secret word. First match has been labelled.
*** You have 1 letters still to guess.
Guess the word : 'flo-'
          : --C--FGH-JKLMNOPQR---VWXYZ
Available
Guessed so far : AEIOUSTBDLF
2 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:w
*** Wrong! You are permitted another 1 wrong guesses before you lose.
Guess the word : 'flo-'
Available : --C--FGH-JKLMNOPQR---V-XYZ
Guessed so far : AEIOUSTBDLFW
1 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:p
*** Yes! 'P' exists in the secret word. First match has been labelled.
*** Well done, you have guessed all of the letters.
```

Well done! The word was 'flop'.

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Guess the word : '----'

Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ

Guessed so far :

10 more wrong guesses permitted.

Type the letter of your guess and ENTER/RETURN:!

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3 Setting the random seed

This example shows the effects of setting the random seed to the same value as for the previous execution.

```
bann$ ./cppcw1 -s1255022103
Seed random number generator: 1255022103.
Welcome to CPP Hangman (G52CPP Lab Exercise)
Random seed was 1255022103
Load dictionary from file: '/usr/dict/words''
20068 words with max length 22
Guess the word : '----'
Available
          : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:f
*** Yes! 'F' exists in the secret word. First match has been labelled.
*** You have 3 letters still to guess.
Guess the word : 'f---'
Available
           : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far : F
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:1
*** Yes! 'L' exists in the secret word. First match has been labelled.
*** You have 2 letters still to guess.
Guess the word : 'fl--'
Available
          : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far : FL
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:o
*** Yes! 'O' exists in the secret word. First match has been labelled.
*** You have 1 letters still to guess.
Guess the word : 'flo-'
Available
          : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far : FLO
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:p
*** Yes! 'P' exists in the secret word. First match has been labelled.
*** Well done, you have guessed all of the letters.
Well done! The word was 'flop'.
```

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Guess the word : '----'

Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ

Guessed so far :

10 more wrong guesses permitted.

Type the letter of your guess and ENTER/RETURN:!

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4 An example of failing to guess a word:

In this case the user tries to guess the secret word but fails. The number of wrong guesses permitted keep decreasing until eventually the player loses and is told the answer, then a new word is chosen.

```
Guess the word : '----'
          : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Available
Guessed so far :
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:a
*** Wrong! You are permitted another 9 wrong guesses before you lose.
Guess the word : '----'
Available : -BCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far : A
9 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:e
*** Yes! 'E' exists in the secret word. First match has been labelled.
*** You have 7 letters still to guess.
Guess the word : '-----e'
           : -BCDEFGHIJKLMNOPQRSTUVWXYZ
Available
Guessed so far : AE
9 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:i
*** Yes! 'I' exists in the secret word. First match has been labelled.
*** You have 6 letters still to guess.
Guess the word : '----i--e'
Available
          : -BCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far : AEI
9 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:o
*** Wrong! You are permitted another 8 wrong guesses before you lose.
Guess the word : '---i-e'
Available
           : -BCDEFGHIJKLMN-PQRSTUVWXYZ
Guessed so far : AEIO
8 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:u
*** Yes! 'U' exists in the secret word. First match has been labelled.
*** You have 5 letters still to guess.
Guess the word : '-u--i--e'
            : -BCDEFGHIJKLMN-PQRSTUVWXYZ
Available
```

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Guessed so far : AEIOU
8 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:u
*** Yes! 'U' exists in the secret word. First match has been labelled.
*** You have 4 letters still to guess.
Guess the word : '-u--i-ue'
          : -BCDEFGHIJKLMN-PQRSTUVWXYZ
Guessed so far : AEIOUU
8 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:i
*** Wrong! You are permitted another 7 wrong guesses before you lose.
Guess the word : '-u--i-ue'
Available : -BCDEFGH-JKLMN-PQRSTUVWXYZ
Guessed so far : AEIOUUI
7 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:s
*** Wrong! You are permitted another 6 wrong guesses before you lose.
Guess the word : '-u--i-ue'
          : -BCDEFGH-JKLMN-PQR-TUVWXYZ
Available
Guessed so far : AEIOUUIS
6 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:t
*** Wrong! You are permitted another 5 wrong guesses before you lose.
Guess the word : '-u--i-ue'
Available : -BCDEFGH-JKLMN-PQR--UVWXYZ
Guessed so far : AEIOUUIST
5 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:g
*** Wrong! You are permitted another 4 wrong guesses before you lose.
Guess the word : '-u--i-ue'
Available
          : -BCDEF-H-JKLMN-PQR--UVWXYZ
Guessed so far : AEIOUUISTG
4 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:w
*** Wrong! You are permitted another 3 wrong guesses before you lose.
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Guess the word : '-u--i-ue'

Available : -BCDEF-H-JKLMN-PQR--UV-XYZ

Guessed so far : AEIOUUISTGW

```
3 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:n
*** Wrong! You are permitted another 2 wrong quesses before you lose.
Guess the word : '-u--i-ue'
          : -BCDEF-H-JKLM--PQR--UV-XYZ
Available
Guessed so far : AEIOUUISTGWN
2 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:m
*** Wrong! You are permitted another 1 wrong guesses before you lose.
Guess the word : '-u--i-ue'
Available : -BCDEF-H-JKL---PQR--UV-XYZ
Guessed so far : AEIOUUISTGWNM
1 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:d
*** Wrong! You are permitted another 0 wrong guesses before you lose.
Guess the word : '-u--i-ue'
          : -BC-EF-H-JKL---PQR--UV-XYZ
Available
Guessed so far : AEIOUUISTGWNMD
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:c
*** Yes! {}^{\prime}C^{\prime} exists in the secret word. First match has been labelled.
*** You have 3 letters still to guess.
Guess the word : 'cu--i-ue'
          : -BC-EF-H-JKL---PQR--UV-XYZ
Available
Guessed so far : AEIOUUISTGWNMDC
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:1
*** Yes! 'L' exists in the secret word. First match has been labelled.
*** You have 2 letters still to guess.
Guess the word : 'cu-li-ue'
Available
          : -BC-EF-H-JKL---PQR--UV-XYZ
Guessed so far : AEIOUUISTGWNMDCL
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:p
*** Wrong! You have run out of guesses. You lose.
```

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Oh dear! The word was 'curlicue'.

5 An example of using the * (list words and guesses) command

In this case the user selects the * command, to display the previous guesses. The output shows that they are currently on the fourth word, that they guessed the first and second word correctly, but that they failed to guess the third word (there are still some '-' in the 'Final Guess' word. You can also see the letters that were tried, and the order in which they were tried.

```
Guess the word : ^{\prime} -----^{\prime}
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:*
Word number : 1
Word : 'gaslight'
Final guess : 'gaslight'
Remaining : '-BCD-FGHIJKLMN-PQRST-VWXYZ'
          : 'AAEIOULGSGHT'
Guesses
Word number : 2
Word : 'fourteenth'
Final guess : 'fourteenth'
Remaining : '---D-FGH-JKLMN-PQR-T-VWX-Z'
Guesses : 'ABEIOUTEEOUSYCTHRNF'
Word number : 3
Word : 'curlicue'
Final guess : 'cu-li-ue'
Remaining : '-BC-EF-H-JKL----QR--UV-XYZ'
           : 'AEIOUUISTGWNMDCLP'
Guesses
Word number : 4
Word : 'genera'
Final guess : '----'
Remaining : 'ABCDEFGHIJKLMNOPQRSTUVWXYZ'
          : ''
Guesses
Guess the word : ^{\prime} -----^{\prime}
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:
```

6 An example of using the \$ (save) command to save

Guess the word : '----'

```
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:$

Please specify the filename to save the list to:./savedwords
Save to file './savedwords'? (Y/N) y
Saved words to file './savedwords'

-

Guess the word : '-----'
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:

After this command, the contents of the file 'savedwords' is as follows:

Word 0: 'gaslight', 'gaslight', '-BCD-FGHIJKLMN-PQRST-VWXYZ', 'AAEIOULGSGHT'
Word 1: 'fourteenth', 'fourteenth', '---D-FGH-JKLMN-PQR-T-VWX-Z', 'ABEIOUTEEOUSYCTHRNI
```

Word 2: 'curlicue', 'cu-li-ue', '-BC-EF-H-JKL----QR--UV-XYZ', 'AEIOUUISTGWNMDCLP'

Word 3: 'genera', '----', 'ABCDEFGHIJKLMNOPQRSTUVWXYZ', ''

Which matches the output for the * command, above.

7 An example of setting the number of guesses

The following example sets the number of wrong guesses to 0. The player starts by cheating (using the ? command to see what the secret word is) then guesses the correct letters, in order. Once the first word was identified, a second word is generated. In this case, the player gets a wrong guess eventually, and loses on the first wrong guess.

```
bann$ ./cppcw1 -g0
Permit 0 bad guesses.
Welcome to CPP Hangman (G52CPP Lab Exercise)
Random seed was 1255026903
Load dictionary from file: '/usr/dict/words''
20068 words with max length 22
Guess the word : '-----'
          : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Available
Guessed so far :
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:?
               : 'homily'
Current word
Guess the word : '----'
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:h
*** Yes! 'H' exists in the secret word. First match has been labelled.
*** You have 5 letters still to guess.
Guess the word : 'h----'
Available
           : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far : H
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:o
*** Yes! 'O' exists in the secret word. First match has been labelled.
*** You have 4 letters still to guess.
Guess the word : 'ho----'
          : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Available
Guessed so far : HO
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:m
*** Yes! 'M' exists in the secret word. First match has been labelled.
*** You have 3 letters still to guess.
```

```
Guess the word : 'hom---'
Available
             : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far : HOM
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:i
*** Yes! 'I' exists in the secret word. First match has been labelled.
*** You have 2 letters still to guess.
Guess the word : 'homi--'
          : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Available
Guessed so far : HOMI
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:1
*** Yes! 'L' exists in the secret word. First match has been labelled.
*** You have 1 letters still to guess.
Guess the word : 'homil-'
Available
          : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far : HOMIL
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:y
*** Yes! 'Y' exists in the secret word. First match has been labelled.
*** Well done, you have guessed all of the letters.
Well done! The word was 'homily'.
Guess the word : '----'
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:a
*** Yes! 'A' exists in the secret word. First match has been labelled.
*** You have 6 letters still to guess.
Guess the word : 'a----'
Available
          : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far : A
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:e
*** Yes! 'E' exists in the secret word. First match has been labelled.
*** You have 5 letters still to guess.
```

Guess the word : 'a-e---'

Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ

Guessed so far : AE

0 more wrong guesses permitted.

Type the letter of your guess and ENTER/RETURN:i

*** Yes! 'I' exists in the secret word. First match has been labelled.

*** You have 4 letters still to guess.

_

Guess the word : 'a-e-i--'

Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ

Guessed so far : AEI

0 more wrong guesses permitted.

Type the letter of your guess and ENTER/RETURN:o *** Wrong! You have run out of guesses. You lose.

Oh dear! The word was 'alewife'.

_

Guess the word : $^{\prime}$ ----- $^{\prime}$

Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ

Guessed so far :

0 more wrong guesses permitted.

Type the letter of your guess and ENTER/RETURN:!

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8 An example of allowing real names

In this example, two command line arguments are used. The first argument specifies that real names should be allowed. The example shows that 25017 words are now loaded instead of 20068 words, since the words with capital letters at the start are now permitted. When the ? (cheat) option is used, it can be seen that the chosen word starts with a capital letter.

```
bann$ ./cppcw1 -N -g0
Include real names.
Permit 0 bad guesses.
Welcome to CPP Hangman (G52CPP Lab Exercise)
Random seed was 1255027292
Load dictionary from file: '/usr/dict/words''
25017 words with max length 22
Guess the word : '-----'
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:?
               : 'Lemuel'
Current word
Guess the word : ^{\prime} -----^{\prime}
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
0 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:!
bann$
```

8.1 Second example

In this second example, the number of wrong guesses permitted are set to three, and again words starting with capital letters are permitted, but the first word this time doesn't start with a capital letter.

```
bann$ ./cppcw1 -N -g3
Include real names.
Permit 3 bad guesses.
Welcome to CPP Hangman (G52CPP Lab Exercise)
-
Random seed was 1255027521
Load dictionary from file: '/usr/dict/words''
25017 words with max length 22
-
Guess the word : '----'
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
```

3 more wrong guesses permitted.

Type the letter of your guess and ENTER/RETURN:?

Current word : 'crone'

_

Guess the word : $^{\prime}$ ---- $^{\prime}$

Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ

Guessed so far :

3 more wrong guesses permitted.

Type the letter of your guess and ${\tt ENTER/RETURN:}$

9 Loading words from a file

A words file (called words4.txt) was created with the following contents:

```
abacus
Borealis
botanist
chose
divestiture
farce
getaway
headroom
inadvertent
junketeer
lobular
muscle
wardroom
zygote
```

9.1 Loading the words from the file

The hangman program was then executed, and told to use that file. 13 words are loaded in this example. The first word is rejected as having a non-alphabetic character. 'Borealis' is rejected as it starts with a capital letter and is a real name.

```
bann$ ./cppcw1 -fwords4.txt
Welcome to CPP Hangman (G52CPP Lab Exercise)
Random seed was 1255028062
Load dictionary from file: 'words4.txt'
13 words with max length 11
Guess the word : '----'
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:?
               : 'muscle'
Current word
Guess the word : '----'
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
10 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:!
bann$ ./cppcw1 -fwords4.txt
Welcome to CPP Hangman (G52CPP Lab Exercise)
Random seed was 1255028081
```

```
Load dictionary from file: 'words4.txt'

13 words with max length 11

-

Guess the word: '-----'
Available: ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far:

10 more wrong guesses permitted.

Type the letter of your guess and ENTER/RETURN:?

Current word: 'headroom'

-

Guess the word: '-----'
Available: ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far:

10 more wrong guesses permitted.

Type the letter of your guess and ENTER/RETURN:!
bann$
```

9.2 Loading from a file

In this case, the program is told to load from the words file, but to include capital letters, and 14 words are accepted in this case. The first word is rejected as having a non-alphabetic character. 'Borealis' is accepted this time.

```
bann$ ./cppcw1 -fwords4.txt -N -s1 -g20
Include real names.
Seed random number generator: 1.
Permit 20 bad guesses.
Welcome to CPP Hangman (G52CPP Lab Exercise)
Random seed was 1
Load dictionary from file: 'words4.txt'
14 words with max length 11
Guess the word : '----'
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
20 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:?
Current word : 'lobular'
Guess the word : ^{\prime} -----^{\prime}
Available : ABCDEFGHIJKLMNOPQRSTUVWXYZ
Guessed so far :
20 more wrong guesses permitted.
Type the letter of your guess and ENTER/RETURN:
```