## Main Game Screen



| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | **Master Mind for Words** | | | | | | | |

**Master Mind for Words**

**How It Works?**

Press one of the buttons to start.
If you are a first timer, check the "How It Works".

**Computer vs. User**

The user picks a word and the computer guesses the word.
The user will score computer's guesses to guide it.

**User vs. Computer**

The computer picks a word and the user guesses it,
guided by the scores given by the computer.

**Player 1 vs. Player 2**

One paleyer picks a word and types it in.
The system will score the other player's guesses.

**Go To Score Board**

See the recorded results so far.

(Image Credit: boardgamegeek.com)

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## Game Screen / Computer vs. User Initial Dialog



| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | **Back to Game Menu** | | **Reset Game Screen** | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | Count | Guessed | Correct Letters | Correct Places | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |

**Letter Count** ✕

Please select the count
of letters in the words

5

OK    Cancel
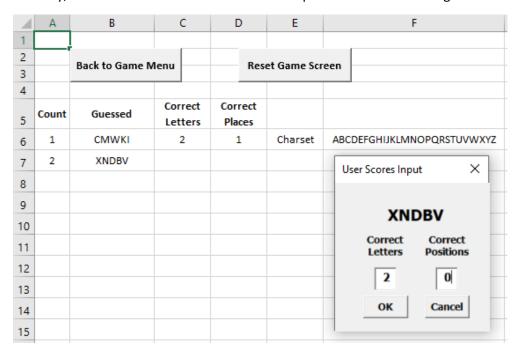
## Dialog Asking the User to Assess Initial Computer's Guess

Assuming that the user's selected word is "COVID", this random guess from the computer would get a 2 + 1 feedback by the user while comparing the guess ("CMWKI") against the selected word ("COVID"):

- ✓ 2 for the two letters that are in both the selected word and the guess ("C" and "I")
- ✓ 1 for the one letter the has appeared in its correct place ("I" is the fifth letter in both words)
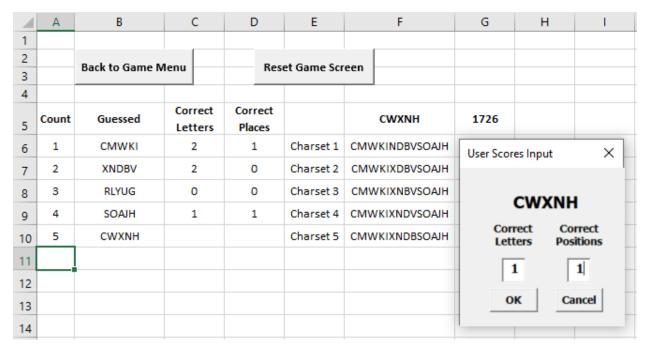
| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | Back to Game Menu | | Reset Game Screen | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | Count | Guessed | Correct Letters | Correct Places | | |
| 6 | 1 | CMWKI | | | Charset | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| 7 | | | | | | |
| 8 | | | | | | |

**User Scores Input** ✕

**CMWKI**

Correct Letters     Correct Positions

2     1

OK     Cancel

Similarly, here is the user's feedback for the computer's second random guess:

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | Back to Game Menu | | Reset Game Screen | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | Count | Guessed | Correct Letters | Correct Places | | |
| 6 | 1 | CMWKI | 2 | 1 | Charset | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| 7 | 2 | XNDBV | | | | |
| 8 | | | | | | |

**User Scores Input** ✕

**XNDBV**

Correct Letters     Correct Positions

2     0

OK     Cancel

User's feedback for the computer's third random guess:

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | Back to Game Menu | | | Reset Game Screen | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | Count | Guessed | Correct Letters | Correct Places | | |
| 6 | 1 | CMWKI | 2 | 1 | Charset | ABCDEFGHIJKLMNOPQRSTUVWXYZ |
| 7 | 2 | XNDBV | 2 | 0 | | |
| 8 | 3 | RLYUG | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |

User Scores Input ✕

**RLYUG**

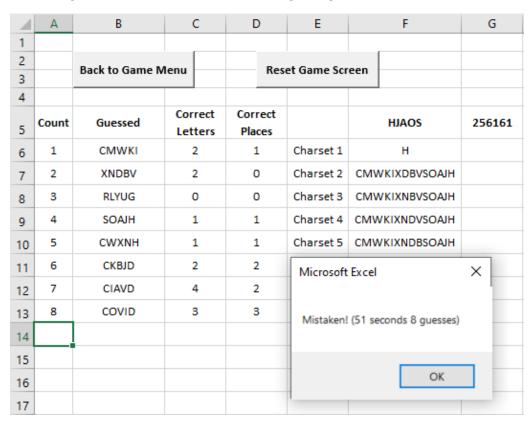Correct Letters: 0  Correct Positions: 0

OK  Cancel

After the fourth guess, the computer would have enough information to begin computing its next guess. When the computation begins, you see additional information about what is the current word that the computer is considering, and that how many words the computer has considered so far, in cells F5 and G5 respectively. User's feedback to this guess (compared to the selected word, "COVID") is as follows:

| | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | |
| 2 | | Back to Game Menu | | | Reset Game Screen | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | Count | Guessed | Correct Letters | Correct Places | | CWXNH | 1726 | | |
| 6 | 1 | CMWKI | 2 | 1 | Charset 1 | CMWKINDBVSOAJH | | | |
| 7 | 2 | XNDBV | 2 | 0 | Charset 2 | CMWKIXDBVSOAJH | | | |
| 8 | 3 | RLYUG | 0 | 0 | Charset 3 | CMWKIXNBVSOAJH | | | |
| 9 | 4 | SOAJH | 1 | 1 | Charset 4 | CMWKIXNDVSOAJH | | | |
| 10 | 5 | CWXNH | | | Charset 5 | CMWKIXNDBSOAJH | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |

User Scores Input ✕

**CWXNH**

Correct Letters: 1  Correct Positions: 1

OK  Cancel

The computer gets closer and closer to the selected word if the user feedback are correct:

| | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | |
| 2 | | Back to Game Menu | | | Reset Game Screen | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | Count | Guessed | Correct Letters | Correct Places | | COVID | 13328 | | |
| 6 | 1 | CMWKI | 2 | 1 | Charset 1 | CMWKINDBVSOAJH | | | |
| 7 | 2 | XNDBV | 2 | 0 | Charset 2 | CMWKIXDBVSOAJH | | | |
| 8 | 3 | RLYUG | 0 | 0 | Charset 3 | CMWKIXNBVSOAJH | | | |
| 9 | 4 | SOAJH | 1 | 1 | Charset 4 | CMWKIXNDVSOAJH | | | |
| 10 | 5 | CWXNH | 1 | 1 | Charset 5 | CMWKIXNDBSOAJH | | | |
| 11 | 6 | CKBJD | 2 | 2 | | | | | |
| 12 | 7 | CIAVD | 4 | 2 | | | | | |
| 13 | 8 | COVID | | | | | | | |
| 14 | | | | | | | | | |

User Scores Input ✕

**COVID**

Correct Letters     Correct Positions

| |  | |

OK     Cancel

If there are a mistake by the user in giving accurate feedback to the computer, the user will be prompted about a potential mistake. For example, in the previous dialog, the correct feedback would be 5 + 5 (five correct letters, and 5 letters in their correct place), but the user has wrongfully entered 3 + 3 which makes the algorithm confused. Thus, the following dialog is shown:

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | Back to Game Menu | | | Reset Game Screen | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | Count | Guessed | Correct Letters | Correct Places | | HJAOS | 256161 |
| 6 | 1 | CMWKI | 2 | 1 | Charset 1 | H | |
| 7 | 2 | XNDBV | 2 | 0 | Charset 2 | CMWKIXDBVSOAJH | |
| 8 | 3 | RLYUG | 0 | 0 | Charset 3 | CMWKIXNBVSOAJH | |
| 9 | 4 | SOAJH | 1 | 1 | Charset 4 | CMWKIXNDVSOAJH | |
| 10 | 5 | CWXNH | 1 | 1 | Charset 5 | CMWKIXNDBSOAJH | |
| 11 | 6 | CKBJD | 2 | 2 | | | |
| 12 | 7 | CIAVD | 4 | 2 | | | |
| 13 | 8 | COVID | 3 | 3 | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |

Microsoft Excel ✕

Mistaken! (51 seconds 8 guesses)

OK

The user is then prompted to enter the selected word, so the computer would check the given feedbacks by the user and find which score(s) had been problematic:

| | Count | Guessed | Correct Letters | Correct Places | | HJAOS | 256161 |
|---|---|---|---|---|---|---|---|
| 6 | 1 | CMWKI | 2 | 1 | Charset 1 | H | |
| 7 | 2 | XNDBV | 2 | 0 | Charset 2 | CMWKIXDBVSOAJH | |
| 8 | 3 | RLYUG | 0 | 0 | Charset 3 | CMWKIXNBVSOAJH | |
| 9 | 4 | SOAJH | 1 | 1 | Charset 4 | CMWKIXNDVSOAJH | |
| 10 | 5 | CWXNH | 1 | 1 | Charset 5 | CMWKIXNDBSOAJH | |
| 11 | 6 | CKBJD | 2 | 2 | | | |
| 12 | 7 | CIAVD | 4 | 2 | | | |
| 13 | 8 | COVID | 3 | 3 | | | |

**Back to Game Menu**     **Reset Game Screen**

Microsoft Excel     ✕

Enter the word you had selected, to find the mistake:     OK     Cancel

COVID

And then shows potential problems:

**Back to Game Menu**     **Reset Game Screen**

| | Count | Guessed | Correct Letters | Correct Places | Recalc Letters | Recalc Places |
|---|---|---|---|---|---|---|
| 6 | 1 | CMWKI | 2 | 1 | | |
| 7 | 2 | XNDBV | 2 | 0 | | |
| 8 | 3 | RLYUG | 0 | 0 | | |
| 9 | 4 | SOAJH | 1 | 1 | | |
| 10 | 5 | CWXNH | 1 | 1 | | |
| 11 | 6 | CKBJD | 2 | 2 | | |
| 12 | 7 | CIAVD | 4 | 2 | | |
| 13 | 8 | COVID | 3 | 3 | 5 | 5 |