

# Minesweeper - User Manual

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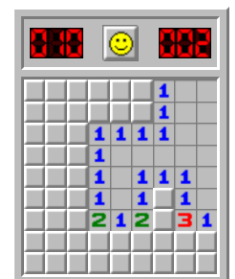
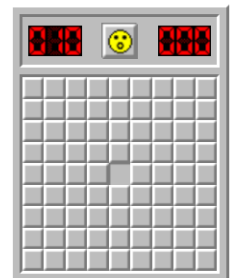
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## How to Play:

1. Start by selecting a difficulty level by clicking on the difficulty drop down menu. If this is your first time playing, beginner difficulty is already pre-selected, so skip this option. For those more experienced, Intermediate or Expert difficulties provide a greater challenge. There is also the option for custom difficulty, where the settings of the game can be customized. This is discussed further on page 3.
2. To start a new game, simply click on the new game button located under the difficulty drop down menu. This will create a new game below. Note: A game will be pre-made upon loading the page. Note: If you haven't clicked on the previous game and you have the same difficulty selected, nothing will happen. This is because the game is generated upon your first left click. This is explained further on page 4.
3. Upon creating the game, you are free to left click on the grid of tiles. This will uncover several tiles (number of tiles uncovered depends on the randomly generated grid, not the click position). Once you have clicked on the first tile, you can begin playing the game.
4. The number you see in a specific tile is the number of bombs that are around it. For example, a number "1" represents that there is one bomb in the 8 spaces surrounding the number tile. This can be used to isolate the position of a mine. Once you believe you have found the location of a mine, place a flag (using right click) over it to indicate that there is a mine there. If you change your mind after placing a flag, simply right click and the flag will disappear.
5. Once you have found and flagged all the mines in a certain area, you can safely clear the remaining safe tiles. Clearing a safe tile can result in two situations.
  - a. Situation 1: A single tile is cleared. This occurs when the tile clicked is a number tile.
  - b. Situation 2: Multiple tiles are cleared. This occurs when the tile clicked is an empty one (no number). This will only clear safe tiles, so there is no risk in clicking on an empty tile.

Difficulty: Beginner (9x9) ▼

New Game



## Winning/losing the Game:

In Minesweeper, the goal of the game is to discover all the hidden mines. You can do this in the game by going through and flagging the mines based on the numbers present on the mineless tiles. Once you have found all the mines, the game is practically won.

The only thing that you need to do from now on is to clear all the empty tiles, at which point the game will be won. To know whether you have won the game, check the status bar (see image →). The game is won when the status bar displays a face with sunglasses.

Now that you have won the game, try going up in difficulty, or check out the custom game mode, which can be found detailed on page 3.



If you click on a mine, you have lost the game (see image ←). The status display will display a face with Xs over its eyes, indicating that you have died. The mine you clicked will be highlighted in red, and any other mines present on the board which you have not flagged will be indicated. Additionally, any incorrectly placed flags will be shown as bombs with Xs through them.

To start a new game after you have won or lost, simply click the face in the status bar. This will start a new game with the settings you have previously selected. Note: This can be performed with the new game button as well.

## Strategies:

1. There will be situations where you might have to guess. Try to avoid these situations by focusing on other areas of the board where bombs can be found. If these cannot be found, all you can do is guess. Attempt to find the places where you have the greatest chance of hitting an empty tile.

- a. For example, if there is a 1 next to a 2 near the wall, there is a good enough chance (>50%) that clicking the tile next to the two will lose the game. Thus, clicking the tile next to the wall and the 1 will give you the best chance of finding the safe tile. The image on the right shows this strategy being performed, and the flag represents the position of the mine.



- b. If you have selected to enable question marks (using the checkbox), a question mark is available to be placed after right clicking on a flag. This can be used to isolate the possible locations of a mine when you are uncertain about its true location. Using question marks does not deduct from the total number of flags you have, and they are a very useful tool for harder difficulties, where there is a higher probability of needing to guess.

Question Marks (?) ☒



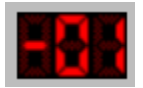
- c. To find a comprehensive list of the various guessing strategies, visit the following website: <http://computronium.org/minesweeper/index.html>. Click on the basics tab after reading the legend on the intro page to begin reading up on some of the more complicated techniques/strategies.

**HUD:**

Minesweeper features a HUD (Heads Up Display), which can be found right above the game board. The HUD contains three elements, two counters, one on each side of a smiley face. These display the various game states and information of your game of Minesweeper.



1. The counter on the left displays your remaining number of flags. Placing a flag will decrease this counter by 1, and removing a flag will increase this counter by 1. This counter can also go into negative values, but to win a game of minesweeper, the value of this counter must be 0. Additionally, this counter also displays the number of mines that are present on the board (as long as the flags have been placed correctly), as the number of flags provided are the same as the number of mines on the board.



2. The smiley face in the middle displays your current action.

- a. A smiley face displays that you are still alive, and/or not doing anything at the moment.
- b. A surprised/suspenseful face displays that you are in the process of clicking. This does not indicate that you are clicking on a mine, rather just the general action of clicking (don't use it to predict the position of a mine)
- c. A face with Xs over its eyes displays that you have died, and that you can no longer click to continue playing. If you see this face, your only option is to start a new game and try again.
- d. A face with sunglasses displays that you have won. Similar to the face with Xs over its eyes, your only option from this point is to start a new game, as winning the game prevents you from clicking.



The smiley face can also be used to start a new game by clicking on it like a button. The face will be pressed down, and on the release of your mouse click, a new game will be created.



3. The second counter displays the time elapsed, similar to a timer. This has no purpose, other than showing you how long it took to complete your game. Players can establish high scores between their friends by comparing their times.

**Custom Difficulty:**

Custom difficulty allows you to customize your game to your liking. Selecting the "custom" option in the difficulty selector will open a customization menu, where you can input three values, the number of rows, columns and bombs. The number of rows and columns is capped to 1x8 to 30x30, while the number of bombs is capped to anywhere between 0-899. However, you can enter any value you wish, as the program adjusts your choice to fit within the cap.

Rows:  Columns:  Bombs:

Custom difficulty allows you to create easier or harder difficulties, test out strategies and learn how the game works. It can be used for any number of purposes/reasons.