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Minesweeper Guide
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I've received a number of requests, and I finally got my act together and wrote the thing. This is a guide to playing Windows Minesweeper or any clone. Please note that these are the strategies that I find to be effective. Any comments or suggestions would be appreciated.

Minesweeper Guide
Daniel Silevitch

The most important part of doing well in expert level Minesweeper is continuity. The patterns and suggestions listed here will be useful, but only if they are used frequently enough to become second nature. A pattern file is of no use for high scores if patterns must be looked up before being used. The only way to achieve such continuity is by constant practice. I've played Minesweeper for at least 9 months, on a virtually daily basis, and I've watched my score on Expert improve from 560 seconds to my current best of 115 seconds.

General strategy hints:

There are two types of information available in Minesweeper; where there are mines, and where there are not mines. If, from the arrangement of numbers, it is clear where a mine must be, that is 1% of the way towards finishing the game. If, on the other hand, there are 2 possibilities for the location of a mine, but there are 3 unopened squares, open the third: it might give you enough information to locate the mine precisely.

Example

Key:

,+,-	: Edge of board
X,x	: Blank square (capital for emphasis)
F	: Flag (located number)
#	: A specific number
.	: A non-specific number

```
|...x  
|F.F.x  
|23x.x  
|XXxxx  
+-----
```

It is clear that the two capital Xs represent the two possible locations for the single mine needed to "fulfill" the 2 that borders the edge. Either of these locations would also create 3 mines adjacent to the 3. This means that the third mine next to the 3 is in one of two locations. Therefore, it is safe to uncover the other blank squares that the 3 abuts. It is possible that this will give some extra information which can be used to solve the original problem.

If analysis fails due to completely insufficient information, give up on the specific area and work on another section instead of wasting time on something that can't be solved. It is possible that work in a nearby section will uncover additional information that will make it possible to solve a once unsolvable region. If this does not happen, and there is no way of distinguishing between locations, guess, and guess quickly so as not to waste time. The object of this guide is to allow you to reduce guessing to a minimum, preferably 0.

At the endgame, when there is usually a strip of unknown composition running along one side of the board, a very primitive analysis can be done regarding the number of mines left. If there are 4 mines left in 40 blocks, there is a large amount of white space, and certain border patterns become more likely. With heavy densities, patterns that use more mines become more probable. Note that this deals with probabilities, not certainties, and is not recommended except as a last resort to blind guessing. This means that if there is an arrangement of mines on the last area that uses 5 mines and one that uses 8, checking the number of remaining mines will give a higher probability of being correct than random guessing.

Patterns

These are all arrangements of mines that have very specific signatures in the numeric display. Some of the patterns I have proven to be true, and others I have not attempted to prove, but since they have consistently worked, they are included here and their verity is assumed.

I. Basic Line patterns (see above for key)

```
..... .....
..121. .1221. .232..
xXXXXX XXXXXX XXXXXx
xxxxxxx xxxxxxx xxxxxxx
|||
V V V
```

```
..... .....
..121. .1221. .232..
x.F.F. ..FF.. .FFF.x
xxxxxxx xxxxxxx xxxxxxx
```

II. Variations on Line patterns

```
...F.. ...F... ....F. ..F... ...F...
.132.. .1332.. .233.. .232.. ..343..
XXXXXXx XXXXXXx XXXXXXx XXXXXXx xXXXXXXx
xxxxxxx xxxxxxx xxxxxxx xxxxxxx xxxxxxx
|||||
V V V V V
```

```

...F.. ..F... ..F. ..F... ..F...
.132.. .1332.. .233.. .232.. ..343..
.F.F.x ..FF..x .FFF.x .F.F.x ..FFF.x
xxxxxx xxxxxxx xxxxxxx xxxxxxx xxxxxxx

```

III. Corner patterns

```

xX... xX... xX...
xX2.. xX2.. xX1..
xX52. xX42. xX42.
xXXXX xXXXX xXXXX
xxxxx xxxxx xxxxx
|||
V V V

```

```

x.... x.... x....
xF2.. xF2.. x.1..
xF52. xF42. xF42.
xFFF. x.FF. xFFF.
xxxxx xxxxx xxxxx

```

These are the basic patterns of mines that are formed by the random number generator. There are other constantly recurring patterns, but they are more complex, and are rare enough that it is faster to approach them using standard elimination strategy than to memorize the solution to the specific patterns.

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I realize now that I made a mistake in the corners section of the Minesweeper guide. Thanks to all the people who pointed it out, either in e-mail or on this group. My mistake was in not specifying the edges of the corner section, leaving them as dots. If these are specified, unique solutions become possible. Please do not send me any more e-mail or post any more messages about this. I KNOW NOW :) Any other comments or suggestions, and especially new patterns would be much appreciated. I will incorporate them into an updated version of the guide.