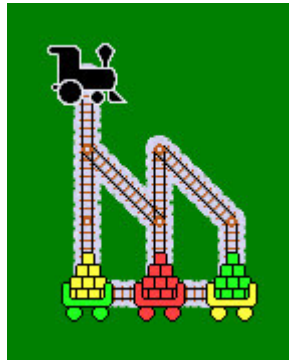


Garriage File Format Specifications



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General description

A Garriage file contains a collection of one or more railway station representations (also called levels). It is intended to be read by a puzzle game called Gatriage (<http://users.skynet.be/jvanlaethem/HTML/Garriage/EN/index.html>).

This is a regular text file, with a CR/LF pair to separate lines and a ".Garriage" extension. It consists of two sections, separated by an empty line:

- The collection information.
- The levels. An empty line separates multiple levels from each other.

Spaces and tabs leading or trailing text lines are always ignored.

A minimal Garriage file, with no collection information and 2 levels may look like this:

```
<e1>
' a--1-0
<e1>
' 1--a-0
<eof>
```

Where `<e1>` represents an empty line and `<eof>` the end of the file.

See '**Appendix C**' for a complete sample file.

Collection Information

The collection information is a list of no or more tag/information pairs.

A tag consists of a name followed by a ':' and the information.

Tag names are read in a case-insensitive way. For example 'Format:' is exactly the same tag name as 'format:', 'FormAt:',...

The information format and values depend on the tag.

Tags may be listed in any order. Only the 'Format:' tag, when present, must be the very first line of the file.

A tag may only appear once in the header or once per level section.

The tag information is usually written on the same line than the tag name. But, it is also possible to have the tag split on several lines. This is particularly useful for comments. In this case, the following rules apply :

- The tag name line may not contain any information
- The following lines are the tag information
- A line with only ':' followed by the tag name marks the end of the comment. For example ':Comment' ends the comment tag.

You may add your own tags, but remember that only standard tags may be treated in an adequate way.

Standard Tags

Example: Format: 1
 Title: Gartri
 Author: Aymeric du Peloux
 AuthorPage: <http://membres.lycos.fr/nabokos>
 Difficulty: 1,6
 Comment: The first collection

Format: This is a number that provides the format version number of the Garriage file. This document describes file format version 1. This is the default value when the tag is omitted. When this tag is defined, it must be the very first one of the file.

Title: Provides the collection name.

Author: This is the author of the collection.

AuthorMail: The author's e-mail address.

AuthorPage: The author's web page.

Difficulty: Provides the lowest and highest difficulty levels of the station definitions included in the file, separated by a ','. These are numeric values. The possible values are 1 to 10. The higher the number, the harder the level. Difficulty levels 1 to 4 are intended to beginners, 5 to 10 to experts.

The lowest value must be the first one. If the highest difficulty level is the same as the lowest, it must be omitted together with the separator.

Spaces and tabs found before or after the values or the ',' are ignored.

This option is useful to quickly search for levels of a selected difficulty.

Comment: Provides a collection related comment.

Station Definition (Level)

A level consists of a list of tag/information pairs and a board.

Standard Tags

| | |
|-------------|--|
| Example: | Title: Escargot Difficulty: 1 Comment: Pour commencer lentement (Design from JVL) |
| Title: | Provides the level name. |
| Author: | This is the author of the level. The tag must be omitted if the value is identical to the collection's value. |
| AuthorMail: | The tag must be omitted if the value is identical to the collection's value. |
| AuthorPage: | The tag must be omitted if the value is identical to the collection's value. |
| Difficulty: | Provides the difficulty level required to solve the puzzle, i.e. to move all wagons to their targets. This is a numeric value. The possible values are 1 to 10. The higher the number, the harder the level. Difficulty levels 1 to 4 are intended to beginners, 5 to 10 to experts. |
| Comment: | Provides a level related comment. |
| Train: | List of the positions of all wagons hooked separated by a ','. The list starts from the locomotive end up to the tail of the train. Each wagon is identified by its co-ordinates between '(' and ')'; and separated by a ','. Co-ordinates are 1 based. The horizontal position, going from left to right, comes first. The vertical position, going from top to bottom, comes next. Spaces and tabs found before or after the values, the ',', the '(' or the ')' are ignored. |

The 8 surrounding characters represent the rail connections to the 8 surrounding squares. The character position relative to the centre character is the position of the surrounding cell relative to the current one.

These are the standard characters for the 8 connections:

```
'\'  '|'  '/'  
'-'  ''  '-'  
'/'  '|'  '\'
```

Alternatively, the following characters may also be used:

```
'#'  '#, '!  '#'  
'#'  ''  '#'  
'#'  '#, '!  '#'
```

Leading and trailing lines with only an '' may be removed.

So, the first format example may also be written as:

```
' 0<eol>  
' #<eol>  
' #<eol>  
' #<eol>  
' ##<eol>  
' # #<eol>  
' # #<eol>  
' # #<eol>  
' # #<eol>  
' # #<eol>  
' a2#####b1<eol>
```

Appendix A: Move Rules

A locomotive with no wagon hooked may move to any of the 8 adjacent cells, as long as:

- A rail directly links the cell of the locomotive and the destination cell.

A train is a locomotive with one or more wagons hooked.

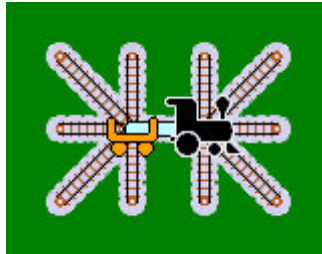
A train may be pulled to a cell as long as:

- A rail directly links the cell of the locomotive and the destination cell.
- The locomotive moves straight on or makes a turn of no more than 45°.

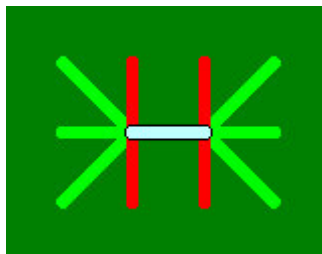
A train may be pushed to a cell as long as:

- A rail directly links the cell of the tail wagon and the destination cell.
- The tail wagon moves straight on or makes a turn of no more than 45°.

Considering the following situation:



Where the possible moves might be represented by red and green lines as follows:



The green lines show valid moves (pushes on the left side, pulls on the right side).

The turn never exceeds 45°.

The red lines show invalid moves. All turns are 90°.

Appendix B: Solution string

A solution string is the list of moves that solve a level, i.e. move all wagons to their targets.

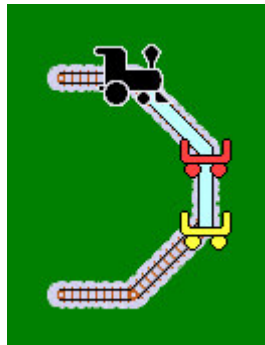
Valid characters in a move string are digits, except but '5'; 'T' or 't'; '-'; '+' and ', '.

Digits

On the numeric keypad of a regular keyboard, the position of the digit, relative to '5', indicates the direction of the move. For example, '7' means a move to the upper left cell, '6' to the right,....



Considering the following situation:

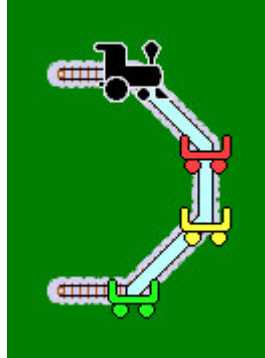


'4' means that the locomotive moves left; the red wagon takes the place of the locomotive; and the yellow wagon takes the place of the red one.

'T' or 't'

When a move applies to the tail, it must be preceded by the letter 'T'.

Considering the following situation:



'4' stands for a pull. It means that the locomotive moves left; the red wagon takes the place of the locomotive; the yellow wagon takes the place of the red one; and the green wagon takes the place of the yellow one.

'T4' stands for a push. It means that the green wagon moves left; the yellow wagon takes the place of the green one; the red wagon takes the place of the yellow one; and the locomotive takes the place of the red wagon.

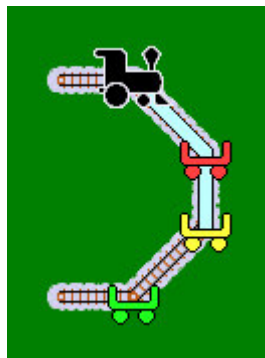
'-' and '+'

A '-' indicates that the last wagon of the train is unhooked.

A '+' indicates that a wagon is hooked at the tail of the train.

A digit following the '+' specifies the position of the wagon, relative to the last wagon of the train, or the locomotive if no wagon is hooked yet.

Considering the following situation:



'-' means that the yellow wagon is unhooked.

'+1' means that the green wagon is hooked to the yellow one.

Hooking a wagon is only allowed if the move would be possible without wagon. In this case, '+1' is valid, because '1' would be a valid move if the green wagon wasn't there.

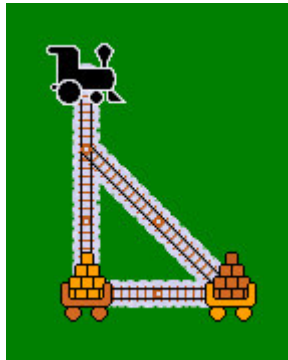
','

A ',' may be used to separate move sequences.

A single mouse click may imply several train moves. Adding a ',' after the last move separates this move sequence from the next one. This allows to undo, or redo, all moves of a sequence at the same time, as they were produced.

When no separator is used, all moves are considered as separate.

Considering the following station:



A step-by-step solution may be:

23+378T2-334+46-77+28T3-22+6T6-488+38T2T2

The same solution, using separators to reflect mouse clicks, may become:

23+3,78,T2,-,334+4,6,-,77+2,8,T3,-,22+6,T6,-,488+3,8,T2T2


```

'   1   a
'     \ /
'     /\
'   a   1
'     | |
'     | |
'   +---+

```

Title: Entonnoir 2
Difficulty: 2
Comment: Presque pareil ?

```

' +---+---+---0
'   \   \   /
'     1   a
'       \ /
'       /\
'     e   5
'   /|   |
'  /|   |
' +  +---+

```

Title: Equerre
Difficulty: 2
Comment: The original

```

' 0
' |
' |
' +
' | \
' | \
' + +
' | \
' | \
' d7---+---g4

```

Title: Trident
Difficulty: 2
Comment: Un genre Hanoi

```

' i1      a9
' |      |
' |      |
' + b2 +
' \ | /
'  \|/
'   +
'   |
'   |
'   0

```

Title: Trombone
Difficulty: 2

```

'   c8---+
'  /   /
' /   /
' h3 +

```

```
'  \/\
'  /\ \
'  0--+--+
```

Title: Yin & Yang
Difficulty: 2

```
'      +--+ 0
'     / \ \/\
'     /   \ /\
'  +  b  +  +
'  |  | /|\ |
'  |  | / | \ |
'  7  +  g  +
'   \/\   /
'   /\   /
'  +  2--+
```

Title: Etoile
Difficulty: 3
Comment: A partir d'un original de JVL

```
'      +
'      |
'      |
'  b8--0--h2
'     /\
'    / | \
'   +  +  +
```

Title: Voile
Difficulty: 3

```
'  +
'  |
'  |
'  +
'  |\
'  | \
'  +  6
'  |  \
'  |   \
'  +--e5--f0
'  |
'  |
'  +
```

Title: Pendaison
Difficulty: 3

```
'      +
'      |
'      |
'  0--+--g3
'  | /
'  | /
'  +
'  |
'  |
'  c7
```

Title: Meduse
 Difficulty: 3
 Comment: ...
 ' g8--+
 ' \ \
 ' \ \
 ' + +
 ' /|\ |
 ' / | \\
 ' 0--h7--+ +

Title: Fleche
 Difficulty: 3
 ' a 9
 ' |\ /|
 ' | \ / |
 ' + + +
 ' \ / /
 ' /\ /
 ' i1 +
 ' \ |
 ' \ |
 ' 0

Title: Scarabee
 Difficulty: 3
 ' 0
 ' |
 ' |
 ' + +--1--5
 ' / \ / /
 ' / \ / /
 ' -e--a--+ +

Title: Echelle
 Difficulty: 3
 ' a
 ' |
 ' |
 ' + d
 ' | |
 ' | |
 ' 3 c
 ' |\ |
 ' | \\
 ' 4 0
 ' |\ |
 ' | \\
 ' 1 +

Title: Escargot 2
 Difficulty: 4
 Comment: Apres la pluie
 ' +--0 + +
 ' / /|\ \ /

```

'      / / | \ \ /
'      + + + + +
'      | /| /| / /
'      |/ |/ | \ /
'      a3 b2 c1 +
'      \      /
'      /
' +---+---+---+

```

Title: Delta
Difficulty: 4

```

' d8--0---+
' \ \
' \ /
' + h4
' | /
' | /
' +

```

Title: Comete
Difficulty: 4

```

'          g3
'         /
'        /
' +      f6
' \     /
' \   /
'   c7---+
'   /|
'  / |
' +  0

```

Title: Croisade
Difficulty: 4

```

'      e
'      |
'      |
' + 5 i9
' | \ / \ / |
' | / \ / \ |
' + + 0
' | /
' | /
' +

```

Title: Poisson
Difficulty: 4
Comment: Bonne peche !

```

'      + a5
'     / \ / \
'    /  / \ \
' + + + e1
' | / \ \ |
' | / \ \ |
' -0 +---+
' /|

```

Title: Fourche

Difficulty: 4

```
' + +
'| \ /|
'| \ /|
'| + + +
'| | | |
'| | | |
'| a9--d4--i1
'| |
'| |
'| 0
```

Title: Equerre 2

Difficulty: 4

```
' +
'| |
'| |
'| 0
'| /|
'| /|
'| +---+ +
'| / +
'| / +
'| / +
'| / +
'| i3---g7---c9
```

Title: Bonbon

Difficulty: 4

Comment: Petit mais costaud

```
' \
'| -+ h1
'| | \
'| | \
'| + ---a8
'| \ \
'| \ /
'| 0 +-
'| | \
```

Title: Tasse

Difficulty: 4

```
' b---0
'| | /
'| | /
'| c---1--2--a3
```

Title: Medaillon

Difficulty: 4

Comment: Tout y est

```
' 0---
'| | \
'| | \
```

```

'   +  +
'   | /
'   | /
' g5--+--e7
'   |
'   |
'   +

```

Title: Etoile 2

Difficulty: 4

```

'   +
'   |
'   |
' g9--0--i7
'  /|\
' / | \
' b5 + e2

```

Title: Fleur

Difficulty: 4

```

'   +
'  /|\
'\ / | \ /
' + 0 +
'  \ | /
'   \|\
'   +
'   |
'   |
' a 3 b
'  \ | /
'   \|\
' c--2
'   |
'   |
'   1

```

Title: Tire-bouchon

Difficulty: 5

```

'       5
'       |
'       |
'       7
'      /|
'     / |
'    + 9
'   / \ /
'  /  /\
' 0 i +--+
'   | /
'   | /
'   g
'   |
'   |
'   e

```

Title: Spoutnik
 Difficulty: 5
 Comment: Bip-bip-bip

```
' 0
' /|\
' / | \
' g3 b2 c7
' \ | /
' \ | /
' +
' / \
' / \
' + +
```

Title: Tasse 2
 Difficulty: 5

```
' +--0--+--+
' \ | /
' \ | /
' a4--b3--c2--d1
```

Title: 24h du Mans
 Difficulty: 5
 Comment: A resoudre en moins de 24h

```
' +--+ f6--+
' / \ \
' / \ \
' + e5--+ +
' | | | |
' | | | |
' + h1 a8 +
' |\ /|
' | \ / |
' + +--+ +--+ +
' \
' /
' 0--+--+
```

Title: Bouquet
 Difficulty: 6

```
' f1 +--h3
' |\ |
' |/\ |
' c8 + a6
' | | /
' | | /
' +--+
' |
' |
' 0
```

Title: Alien
 Difficulty: 6
 Comment: Ripley ?

```
' +
' |\
```

```

' | | \
' + h9
' \ \
' \ \
' + i1
' | / \
' | / \
' +--0 a8
' \
' \
' +

```

Title: Usine
Difficulty: 6

```

' 0
' |
' |
' + +
' | \ | \
' | \ | \
' + + +
' | | |
' | | |
' b3--a1--c2

```

Title: Alien 2
Difficulty: 6
Comment: Ripley !!

```

' 0
' | \
' | \
' + + c9
' \ \ /
' \ / \
' a + +
' | / | \ |
' | / | \ |
' 1 + +
' /
' /
' i3

```

Title: Barriere
Difficulty: 6
Comment: On manque d'air ?

```

' + 0
' | \ | \
' | / | \
' + e5 +
' | / \ |
' | / \ |
' b4 d2

```

Title: Cintre
Difficulty: 6

```

' +---+---+---+---+

```

```

'   /|           /|
'   / |         / |
' +---+---+---f9 7---+
'   | /         \ |
'   | /         \ |
'   +     g6   d   +
'           | / /
'           | / /
'           0---+---+
'                \ \
'                \ \
'                   i4

```

Title: Constellation
Difficulty: 6
Comment: En forme d'etoile

```

'       b3
'       /
'      /
' e2---+---+
'  \ / \ / \
'   +  +---c1
'   | /   |
'   | /   |
'   a5     0

```

Title: Ressort 2
Difficulty: 7
Comment: Un dernier pour finir en beaute.

```

'       0---+
'       \ /
'       /\
' a4---+ +---d1
' |   \ /
' |   /\
' b3---+ +---c2
'       \ /
'       /\
' +---+---+---+

```