# GML Tags

## Globally defined Tags

**id** *integer*
: **id** defines an identifier for an object. The values of **id** tags must be unique under certain constraints. For example, there may not be two nodes with the same **id**.
I an array, **id** can be used for indexing.

**name** *string*
: **name** is similar to **id** but uses a **string** instead of an integer. Again, the level of uniqueness is defined by the application.

**label** *string*
: **label** defines a textual label attached to an object. Typically, labels are attached to **node** or an **edge**.

**comment** *string*
: Defines a comment embedded in a GML file. Comments are ignored by the application.

**Creator** *string*
: The name of the application created this file.

## Graph Tags

**graph** *list*
: The tag **graph** starts a new graph. Common tags within **graph** are **node** and **edge**.

**node** *list*
: The tag **node** starts a new node. Common tags within **node** are **id**, **label** , **graphics** and **LabelGraphics**.

**edge** *list*
: The tag **edge** starts a new edge. Required tags within **edge** are **source** and **target**. Common tags are **label**, **graphics** and **LabelGraphics**.

## Graphics

**graphics** *list*
: **graphics** defines the graphical representation of a **graph**, a **node** or an **edge**. Graphlet defines a separate tag **LabelGraphics** which optionally defines the graphical representation of the label.

**x** *double*
: In context of **center**, **x** defines an x coordinate.

**y** *double*
: In context of **center**, **y** defines an y coordinate.

**z** *double*
: In context of **center**, **z** defines an x coordinate.

**w** *double*
: In context of graphics, **w** defines the width of an object.

**h** *double*
: In context of graphics, **h** defines the height of an object.

**d** *double*
: In context of graphics, **d** defines the depth of an object.

**Line** *list*
: **Line** defines a polyline, typically to describe an edge. **Line** contains at least two point objects.

**point** *list*
: **point** defines a point, for example a point of a **Line**. **point** contains **x**, **y** and optionally **z**.

**type** *string* (Graphlet Extension, derived from Tk)
: **type** defines the type of a graphic object. Graphlet recognizes the following values:

  - **arc**
  - **bitmap**
  - **image**
  - **line**
  - **oval**
  - **polygon**
  - **rectangle**
  - **text**

  Default value is **rectangle**

**visible** *bool* (Graphlet Extension)
: Determines wether the object is visible or not.

**fill** *string* (Graphlet Extension, derived from Tk)
: Defines a color to fill the interior of an object with.

**outline** *string* (Graphlet Extension, derived from Tk)
: The color of the outline of the object.

**stipple** *string* (Graphlet Extension, derived from Tk)
: The color of the outline of the object.

**anchor** *string* (Graphlet Extension, derived from Tk)
Defines the anchor position (that is, the relative location of (**x**,**y**,**z**) of a **bitmap**, **image** or **text** object. Graphlet recognizes the following values:

- **c** *center*
- **n** *north*
- **ne** *northeast*
- **e** *east*
- **se** *southeast*
- **s** *south*
- **sw** *southwest*
- **w** *west*
- **nw** *northwest*

**width** *double* (Graphlet Extension, derived from Tk)
The **width** is the width of a line or an outline.
**extent** *double* (Graphlet Extension, derived from Tk)
(**arc** only) The length of the arc in counter-clockwise direction, in degrees.
**start** *double* (Graphlet Extension, derived from Tk)
(**arc** only) The starting angle of the arc, in degrees.
**style** *string* (Graphlet Extension, derived from Tk)
(**arc** only) The style of an arc. Graphlet recognizes the following values:

- pieslice
- chord
- arc

**background** *string* (Graphlet Extension, derived from Tk)
(**bitmap only**) The background color of a bitmap.
**foreground** *string* (Graphlet Extension, derived from Tk)
(**bitmap only**) The foreground color of a bitmap.
**bitmap** *bitmap* (Graphlet Extension, derived from Tk)
(**bitmap** only) The file name of the bitmap. Graphlet recognizes **X Bitmap** files through Tk.
**image** *string* (Graphlet Extension, derived from Tk)
(**image** only) The file name of the image. Graplet recognizes **GIF** and **JPEG** images through Tk.
**arrow** *string* (Graphlet Extension, derived from Tk)
(**line** only) The position of the arrow. Graphlet recognizes the following values:

- **none**
- **first**
- **last**
- **both**

Undirected graphs should use **none**, directed graphs should use **first**.
**capstyle** *string* (Graphlet Extension, derived from Tk)
(**line** only) Line ends. Graphlet recognizes the following values:

- **butt**
- **projecting**
- **round**

**joinstyle** *string* (Graphlet Extension, derived from Tk)
(**line** only) Line joints. Graphlet recognizes the following values:

- **bevel**
- **miter**
- **round**

**smooth** *boolean* (Graphlet Extension, derived from Tk)
(**line**, **polygon** only) Determines wether the line should be drawn as a straight lines or splines.
**splinesteps** *integer* (Graphlet Extension, derived from Tk)
(**line**, **polygon** only) Number of line segments that approximate the spline. Only active if **smooth** is set to **1**.
**justify** *string* (Graphlet Extension, derived from Tk)
(**text** only) text justification. Graphlet recognizes the following values:

- left
- right
- center

**font** *string* (Graphlet Extension, derived from Tk)
(**text** only) Name of the X11 font to draw the text with. Device independend form not determined yet.

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