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**1. Python Visualization codes for markers**

Link : <https://matplotlib.org/3.1.0/api/markers_api.html>

| **marker** | **symbol** | **description** |
| --- | --- | --- |
| "." | m00 | point |
| "," | m01 | pixel |
| "o" | m02 | circle |
| "v" | m03 | triangle\_down |
| "^" | m04 | triangle\_up |
| "<" | m05 | triangle\_left |
| ">" | m06 | triangle\_right |
| "1" | m07 | tri\_down |
| "2" | m08 | tri\_up |
| "3" | m09 | tri\_left |
| "4" | m10 | tri\_right |
| "8" | m11 | octagon |
| "s" | m12 | square |
| "p" | m13 | pentagon |
| "P" | m23 | plus (filled) |
| "\*" | m14 | star |
| "h" | m15 | hexagon1 |
| "H" | m16 | hexagon2 |
| "+" | m17 | plus |
| "x" | m18 | x |
| "X" | m24 | x (filled) |
| "D" | m19 | diamond |
| "d" | m20 | thin\_diamond |
| "|" | m21 | vline |
| "\_" | m22 | hline |
| 0 (TICKLEFT) | m25 | tickleft |
| 1 (TICKRIGHT) | m26 | tickright |
| 2 (TICKUP) | m27 | tickup |
| 3 (TICKDOWN) | m28 | tickdown |
| 4 (CARETLEFT) | m29 | caretleft |
| 5 (CARETRIGHT) | m30 | caretright |
| 6 (CARETUP) | m31 | caretup |
| 7 (CARETDOWN) | m32 | caretdown |
| 8 (CARETLEFTBASE) | m33 | caretleft (centered at base) |
| 9 (CARETRIGHTBASE) | m34 | caretright (centered at base) |
| 10 (CARETUPBASE) | m35 | caretup (centered at base) |
| 11 (CARETDOWNBASE) | m36 | caretdown (centered at base) |
| "None", " " or "" |  | nothing |
| '$...$' | m37 | Render the string using mathtext. E.g "$f$" for marker showing the letter f. |
| verts |  | A list of (x, y) pairs used for Path vertices. The center of the marker is located at (0,0) and the size is normalized, such that the created path is encapsulated inside the unit cell. |
| path |  | A [Path](https://matplotlib.org/3.1.0/api/path_api.html#matplotlib.path.Path) instance. |
| (numsides, style, angle) |  | The marker can also be a tuple (numsides, style, angle), which will create a custom, regular symbol.  numsides:  the number of sides  style:  the style of the regular symbol:   * 0: a regular polygon * 1: a star-like symbol * 2: an asterisk * 3: a circle (numsides and angle is ignored); deprecated.   angle:  the angle of rotation of the symbol |

**2.** **Linestyles**

|  |  |  |
| --- | --- | --- |
| Style Type | Python Code | Design |
| Solid | ‘solid’ |  |
| Dotted | ‘dotted’ |  |
| Dashed | ‘dashed’ |  |
| Dashdot | ‘dashdot’ |  |
| Loosly dotted | (0,(1,10)) |  |
|  |  |  |
|  |  |  |