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### **Content**

Manim Function Tree Structure of Manim Function Source and Reference

## **Manim Function**

A function is the fundamental operations for specific MObject used in Manim.

### Tree Structure of Manim Function

Function Structure last updated 16Jan 2020 based on version 19Dec2019

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Knowledge

- function
  - manimlib.mobject.mobject\_update\_utils.py
    - def assert\_is\_mobject\_method(method)
    - def always(method, \*args, \*\*kwargs)
    - def f\_always(method, \*arg\_generators, \*\*kwargs)
      - def updater(mob)
    - def always\_redraw(func)
    - def always\_shift(mobject, direction=RIGHT, rate=0.1)
    - def always\_rotate(mobject, rate=20 \* DEGREES, \*\*kwargs)
    - def turn\_animation\_into\_updater(animation, cycle=False, \*\*kwargs)
      - def update(m, dt)
    - def cycle\_animation(animation, \*\*kwargs)
  - manimlib.mobject.three\_d\_shading\_utils.py
    - def get\_3d\_vmob\_gradient\_start\_and\_end\_points(vmob)
    - def get\_3d\_vmob\_start\_corner\_index(vmob)
    - def get\_3d\_vmob\_end\_corner\_index(vmob)
    - def get\_3d\_vmob\_start\_corner(vmob)
    - def get\_3d\_vmob\_end\_corner(vmob)
    - def get\_3d\_vmob\_unit\_normal(vmob, point\_index)
    - def get\_3d\_vmob\_start\_corner\_unit\_normal(vmob)
    - def get\_3d\_vmob\_end\_corner\_unit\_normal(vmob)
  - manimlib.mobject.three\_d\_utils.py
    - def get\_3d\_vmob\_gradient\_start\_and\_end\_points(vmob)
    - def get\_3d\_vmob\_start\_corner\_index(vmob)
    - def get\_3d\_vmob\_end\_corner\_index(vmob)
    - def get\_3d\_vmob\_start\_corner(vmob)
    - def get\_3d\_vmob\_end\_corner(vmob)
    - def get 3d vmob unit normal(vmob, point index)

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- def get\_3d\_vmob\_start\_corner\_unit\_normal(vmob)
- def get\_3d\_vmob\_end\_corner\_unit\_normal(vmob)

### **Source and Reference**

https://github.com/3b1b/manim version 19Dec2019

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- Windows 8.1 Knowledge Base Networking Network Shell Netsh mbn (last updated On 3/28/2021)
- Windows 8.1 Knowledge Base Networking Network Shell Netsh interface portproxy (last updated On 3/27/2021)
- Windows 8.1 Knowledge Base Networking Network Shell Netsh http (last updated On 3/26/2021)
- Windows 8.1 Knowledge Base Networking Network Shell Netsh (last updated On 3/25/2021)
- Manim Knowledge Base Getting Started Useful Information Geometry VMobject Tipable VMobject Line Number line, py (last updated On 3/24/2021)
- Manim Knowledge Base Getting Started Useful Information Numbers DecimalNumber, Integer (last updated On 3/23/2021)
- Manim Knowledge Base Getting Started Useful Information Numbers (last updated On 3/22/2021)
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