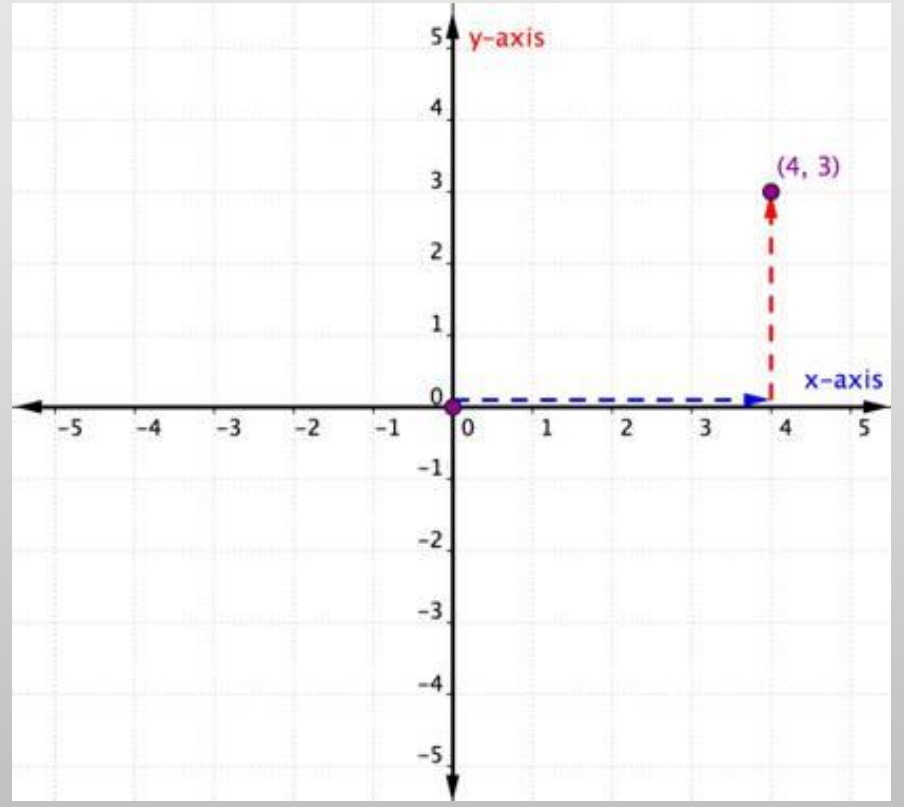
Attributes of Raster Graphics

Part -2

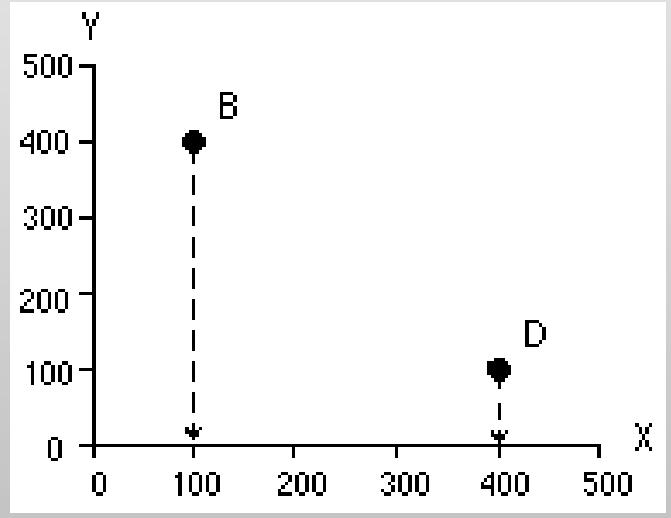
Points and Line

- A graph's basic relationship is represented by a point.
- A pair of numbers containing two coordinates define each point.



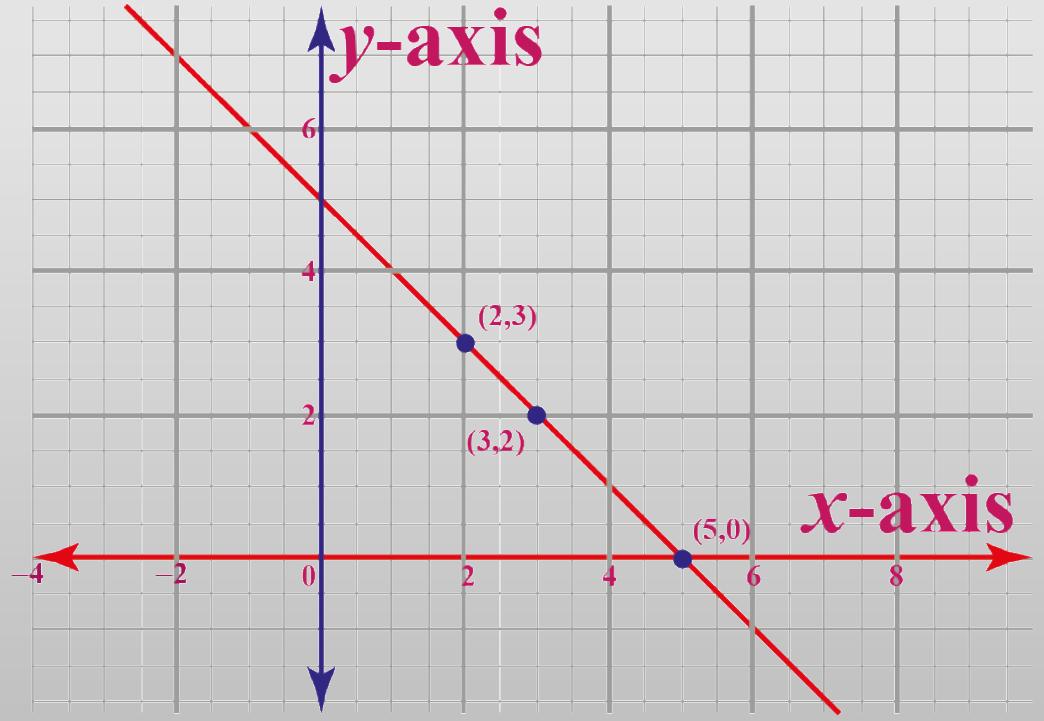
Points and Line

- One of the integers used to identify the location of a point on a graph is a coordinate.
- X-Y Coordinate axis.



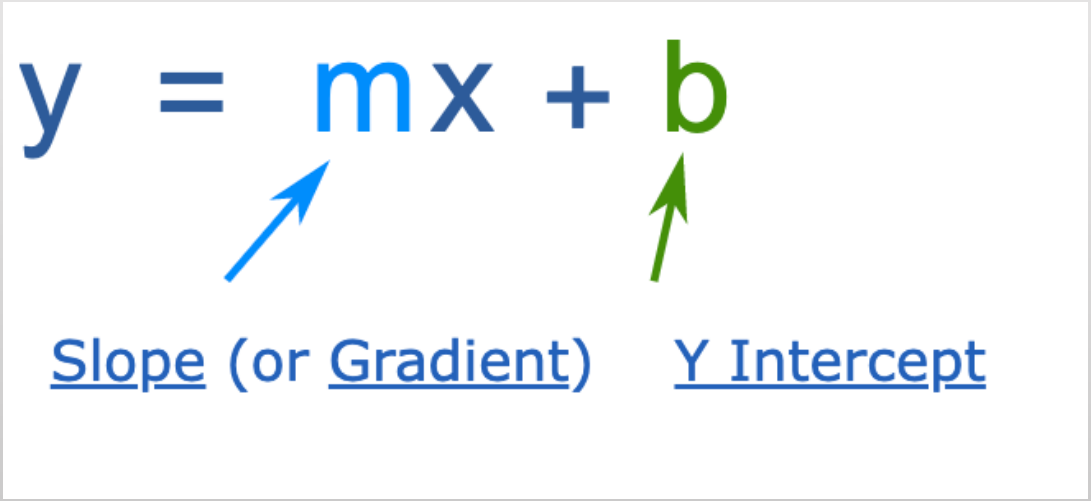
Point and Line

- A line graph is a type of chart that is used to display data that varies over time.
- We make line graphs by connecting numerous locations with straight lines.



Line Equations

- A linear equation is one in which the variable's maximum power is always 1. A one-degree equation is another name for it.



Line Equations

- A straight line is graphically represented by the equation y = m x + c, where m is the slope/gradient and c is the intercept. In this article, you'll learn how to use Matplotlib to plot y = m x + b in Python.

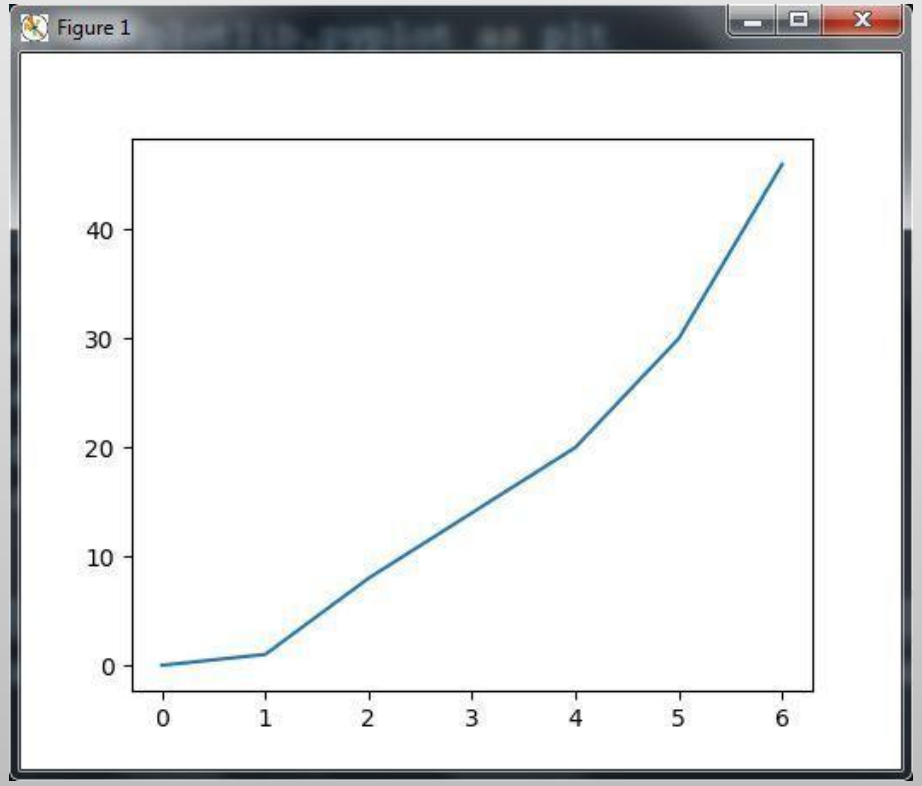
$$\text{Slop} = \frac{y2 - y1}{x2 - x1}$$

Line and Curve Attributes

- Line attributes are the width, color, and styles
- For the style, there are dotted, dashed and straight line
- For the width of the line, it can be set by setting the values of the width.

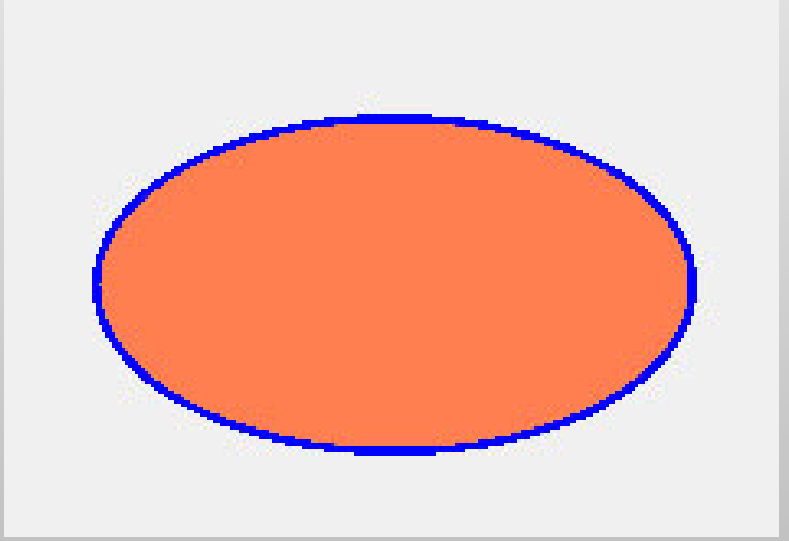
Drawing Curves

- For drawing curves, it is required to have more than one point, in other word th should be a set of numbers.
- The numbers can be generated either as set of data as x,y from a file, or it can be set by using a math function.



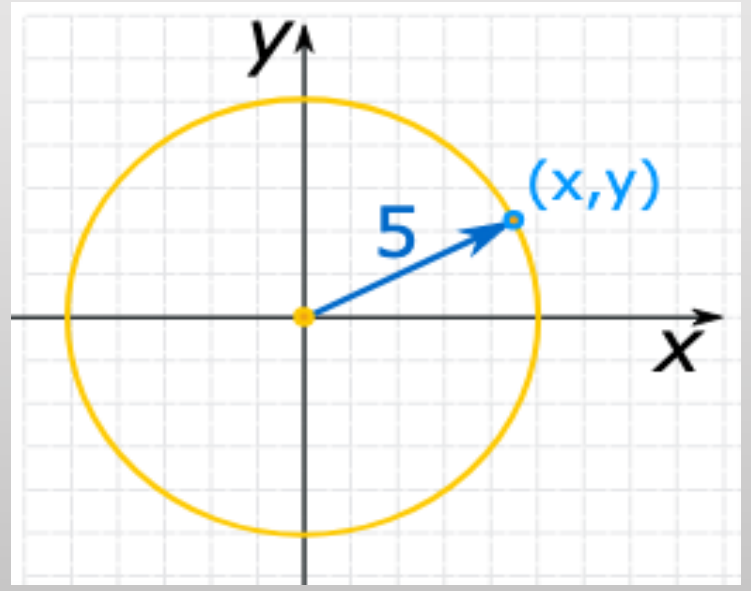
Elements of Circles and Eclipse

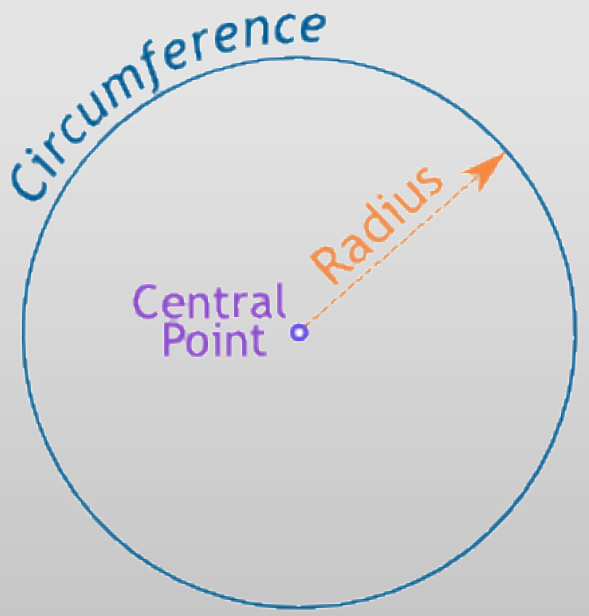
- The main elements of eclipse are width, height, xy as center and angle=0, the angle consider as scalar.
- Other properties for eclipse are fill color and line color

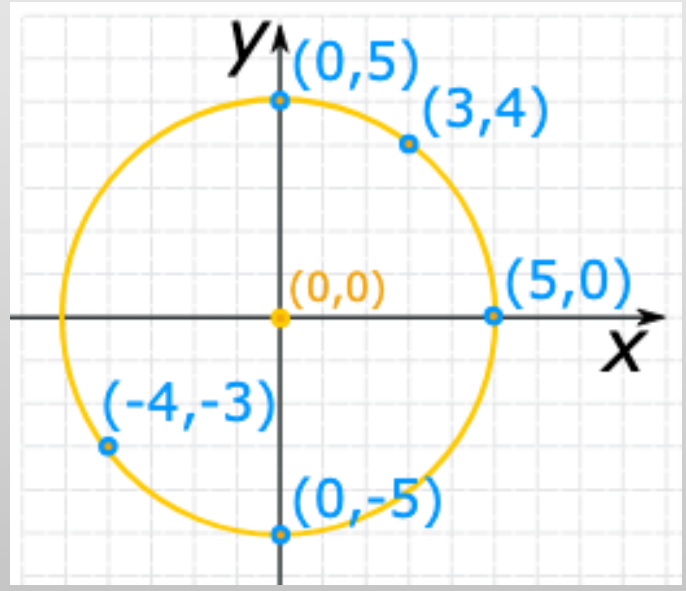


Elements of Circles and Eclipse

$$(x-h)^2+(y-k)^2=r^2$$







Filling Area

- Filled Area Primitives: Filling an image or region is the process of filling it.
- The filling can be of the boundary or inner region.
- The boundary is filled by boundary fill algorithms, while the interior is filled with flood-fill algorithms.

Filling Boundary

- Boundary fill is a common computer graphics approach for filling a chosen color inside a closed polygon with the same boundary color on all sides.
- A stack-based recursive function is the most commonly used implementation of the method.