**Turtle module:**

Turtle is a Python module that provides drawing board like feature

which enables user to create pictures and shape

turtle works with only ‘gif’ image

* **Points**
* simple drawings
* geometric animations
* simple games
* easy to learn

Turtle is a python package. In Python, turtle graphics provides a representation of a physical “turtle” (a little robot with a pen) that draws on a sheet of paper on the floor.

* Import:

***from turtle import Turtle, Screen***

* Create object:

***t = Turtle()  
s = Screen()***

**function: Turtle class**

t.title(“Messege”) # title messege

t.shape("turtle") # appear actual turtle,circle,..

t.shpasize(length, width, outline\_width) #turtle size  
t.color("red") # change color turtle  
t.forward(300)/ fd() # move 300 places

t.backword(200)/ bk() # move 200 place back

t.left(90)/ lt() # move 90 Degree left

t.right(90)/rt()

t.pendown()/ pd() # pen in the screen

t.penup() # pen pull-up from screen

t.pensize(10 # pen thickness

t.pencolor(‘green’) # pen color

t.fillcolor(“red”)

t.home() # again center in the screen

t.goto(x\_dir, y\_dir) # turtle position(x,y)coordinate

t.getscreen() # get screen

t.circle(radius) # make circle

t.hidetutle() # hide the turtle

t.showturtle() # agin show turtle

t.fillcolor("green") # fill the color  
t.begin\_fill()  
 *t.circle(60)* # what ever you make shape  
t.end\_fill()

t.hide()/ht() # hide turtle

**function: Screen class**

s = Screen() # screen appear  
print(s.canvheight) # change height  
s.exitonclick() # hold screen

s.listen() # collect keyboard key event

s.onkey(what\_key, what\_event) # event on type key

s.textinput(title, prompt ) # popup input text box

s.setup(600, 400) # screen size

**Pandas**

Library of data analysis. Where so many inbuild functions.

Pandas is a popular open-source data manipulation and analysis library

Highly robust data operation.

***dataset -> (read by python) -> dataFrame (D.S)***

*Have* ***2 data- structures****:*

1. **DataFrame** – excel sheet or table.
2. **Series-** one row or one column

 CSV (Comma-Separated Values)

* .DataFrame(vari..)

To show files.

* .to\_csv(‘file.csv’)

Create csv file.

***Inplace = ‘True’*** : it’s use for permanent changes in the dataFrame

**Data visualization library**: matplotlib, seabon, lablu, dash