

## **Tues 1-22-19**

- 1. Laptop logistics – trial running of a script**
- 2. Matlab graphics**
  - 1. Figure window**
  - 2. Handle Graphics**
- 3. Matlab data types used by course data**
- 4. Read notes\_1.pdf, appendixa.pdf**
- 5. Goal: data gathered and organized in the 6 txt files by Thurs (1/24)**

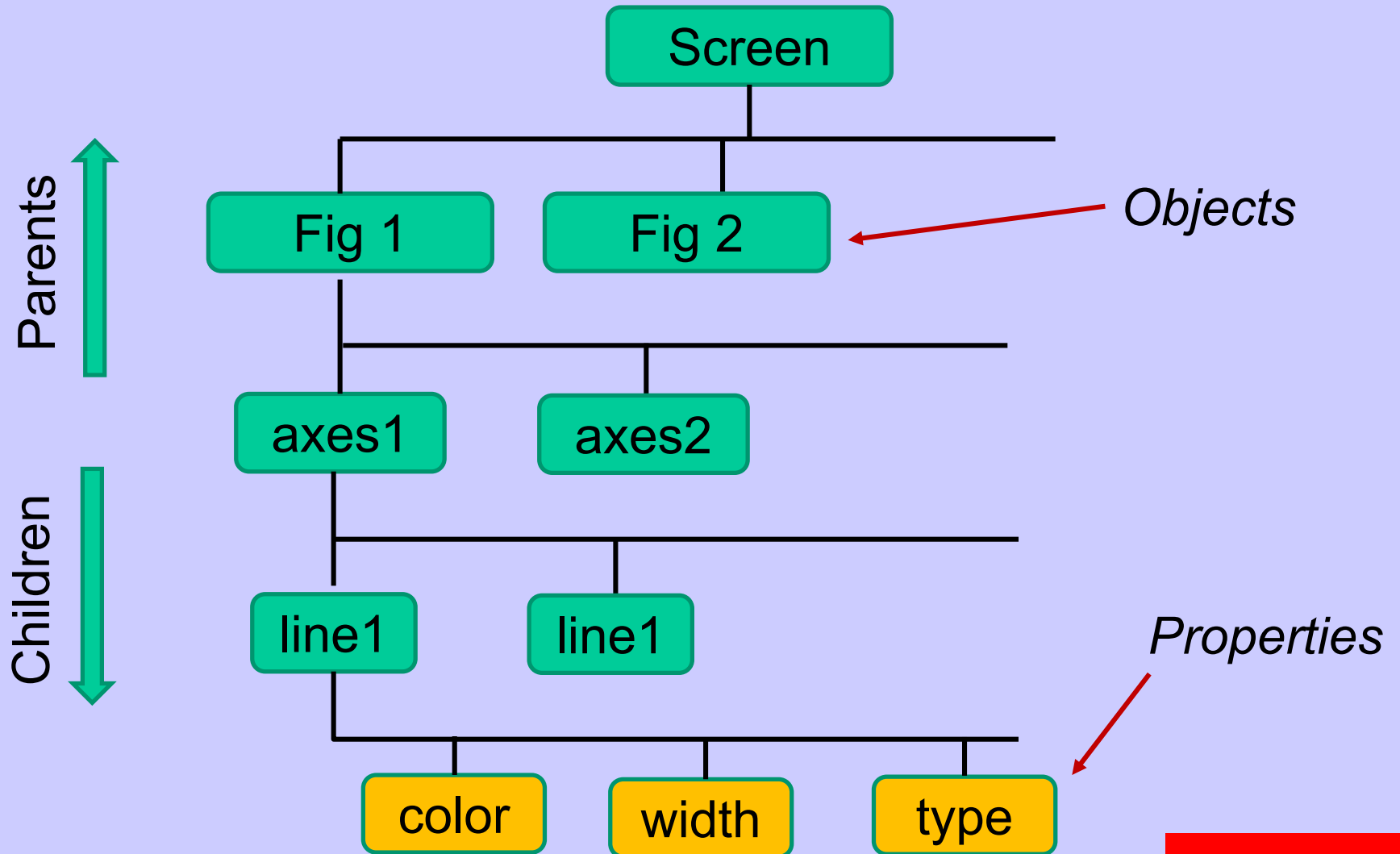
# Laptop logistics

1. Make blank folder
2. Copy tsfiles.zip and other.zip from D2L to that folder
3. Unzip the files
4. Run script Tsp\_examples
5. Should see the 11 plots

# Matlab graphics

1. Illustrate use graphics window menu (text arrow, etc.) on one of the figures made by Tsp\_examples.m
2. Save figure window 11 as a.fig
3. demo01a.m: loads a.fig, revise using Handle Graphics; save revised figure as a1.fig and a1.png

# Handle Graphics Hierarchy



# Variable types use in V1, V2, V3 data

1. Double
2. Character
3. Cell
4. Structure

# Double

- “double precision”
- Any number – scalar or matrix

1

$[4 \quad 6 \quad 2]$

$\begin{bmatrix} 7 & 9 \\ 1 & 6 \end{bmatrix}$

# Character

- Also called “strings”
- Either vector or matrices whose elements are characters
- Useful for names, labels and annotation

'Series A'

$\begin{bmatrix} \text{'Series A'} \\ \text{'Series B'} \end{bmatrix}$

# Cell

- Combine elements of different variable-types
- Can be multi-dimensional

1x4 cell

$$\left\{ \text{'Dog'}, \text{'Cat'}, 7, \begin{bmatrix} 7 & 8 \\ 2 & 1 \end{bmatrix} \right\}$$



# Structure

- Like a database, with different fields
- Fields themselves may be any variable type

D.name: {'Re x', 'Martin', 'Donald'}

D.weight: [180 140 220]

D.correlations:  $\begin{bmatrix} 0.43 & 0.55 & 0.19 & 0.32 \\ 0.03 & 0.80 & 0.39 & 0.02 \end{bmatrix}$

# Structures of Sample Data

- Your data will be stored in structures once you run the first assignment
- To Matlab to see example for the sample data, and how access elements of the structures from the command line....