Algorithms

- **algorithm**
  - Step by step method to solve a problem

- **Top-down design**
  - Break solution into steps, then refine each step

- Generic algorithm
  1. Get values
  2. Calculate result(s)
  3. Display result(s)

- **modular** program
  - Consists of functions that implement each step
Scripts

- Sequence of MATLAB instructions in a “.m” M-files
- Implement an algorithm
- Interpreted
- Click on “HOME | New Script” (opens Editor)
- Execute name of saved script (averageAge.m) at prompt

```
>> averageAge
```
- `type` - displays a script in Command Window
averageAge.m

```matlab
% Calculates average of 3 ages
age1 = 18;
age2 = 22;
age3 = 40;
avgAge = (age1 + age2 + age3) / 3;
display(avgAge)
fprintf('Average age is $f.\n', avgAge)
fprintf('Average age is %.0f.\n', avgAge)
```

• Comments
• `display` shows value
• `fprintf` controls output format
• Output is suppressed.

```
>> averageAge
avgAge =
   26.6667
Average age is 26.666667.
Average age is 27.
```