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 at prompt
  
  `>> avgAges.m`

- `type` - displays a script in Command Window
```matlab
%% Calculates average of 3 ages
age1 = 18;
age2 = 22;
age3 = 40;
avgAge = (age1 + age2 + age3) / 3;
display(avgAge);
fprintf('Average age is %.f.
', avgAge);
fprintf('Average age is %.0f.
', 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.
```