

**(1) Find the zero using a brute force method**

```
y = @(x) x^2 - 1;
```

```
xi = 0; xf = 10; dx = 0.001;
```

```
for x = xi:dx:xf
```

```
    y1 = y(x);
```

```
    y2 = y(x+dx);
```

```
    if( y1*y2 <= 0)
```

```
        fprintf('Zero at x = %7.4f\n', x+dx)
```

```
        break
```

```
    end
```

```
end
```

```
% Try with other anonymous functions
```

## **(2) Random numbers and integers**

```
clear; clc;
```

```
N = 5
```

```
% Want real random numbers 0 to 1  
array = rand(1,N)
```

```
% Want real random numbers 10 to 20  
a = 10;  
b = 20;  
numbers = a + (b-a)*array
```

```
% Want random integers 10 to 20  
a = 9;  
b = 20;  
numbers = floor(a + (b-a)*array + 1)
```

### (3) Plotting a single set of data

```
t = (0 : 0.1 : 1);
x = t + 0.5;
xmin = -2; xmax = 4;
ymin = -5; ymax = 15;
xcoor = 1; ycoor = 5;

% plot(t,x)
plot(t,x, '-ro')

xlabel('x-axis')
ylabel('y-axis')
title('my nice title')
grid on;
axis([xmin, xmax, ymin, ymax])
label( xcoor, ycoor, 'My awesome label')
```