

## Example Illustrating the Use of MATLAB's *fzero* Routine

MATLAB has a built-in routine called *fzero* that approximates roots of functions.

The syntax is

```
>>root = fzero(@f,x0)
```

where *f.m* is a function file defining the function whose root you want and *x0* is an estimate of the value of the root.

For example, suppose you want to find a root of the equation  $x - \cos(x) = 0$  near  $x = 0$ .

You would first create a function file containing the following three lines.

```
function y = f(x)
```

```
y = x - cos(x);
```

```
end
```

Then, in the MATLAB command window, execute the following command.

```
>>root = fzero('f',0)
```