Scope (1A)

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Who, Whos

```
octave:5> who
octave:6> whos
octave:7> m = [1 2 3];
octave:8> n = [4; 5; 6];
octave:9>
octave:9> who
Variables in the current scope:

m   n

octave:10> whos
Variables in the current scope:

   Attr Name          Size          Bytes  Class
   ==== ====          ====          =====  =====
        m             1x3              24  double
        n             3x1              24  double

Total is 6 elements using 48 bytes
```

function func(a)

m = [1 2];
n = [3; 4];

disp("m = "), disp(m);
disp("n = "), disp(n);
disp("a = "), disp(a);

disp("in func : who");
who

disp("in func : whos");
whos

endfunction

```
octave:11> func(1)
m =
   1    2
n =
   3
   4
a =
 1
in func : who
Variables in the current scope:

a      argn   m      n

in func : whos
Variables in the current scope:

   Attr Name          Size       Bytes  Class
   ==== ====          ====       =====  =====
     f  a             1x1            8  double
   a    argn          1x1            1  char
        m             1x2           16  double
        n             2x1           16  double

Total is 6 elements using 41 bytes
```

Global Variables

```
function func(a)

  global gm;

  gm++;
  printf("gm = %d\n", gm);
  printf("a = %d\n", a);

endfunction
```

```
octave:37> global gm = 22;
octave:38> disp(gm)
 38
octave:39> global gm
octave:40> gm = 22;
octave:41> disp(gm)
 22
octave:42> func(1)
gm = 23
a = 1
octave:43> gm = 33
gm =  33
octave:44> func(2)
gm = 34
a = 2
```

Persistent Variables

```
function func(a)

  persistent sm = 0;

  sm++;
  printf("sm = %d\n", sm);
  printf("a = %d\n", a);

endfunction
```

```
octave:2> func(10)
sm = 1
a = 10
octave:3> func(20)
sm = 2
a = 20
octave:4> clear
octave:5> func(30)
sm = 3
a = 30
octave:6> clear all
octave:7> func(40)
error: 'func' undefined near line 1 column 1
```

References

[1]   Octave Manual
[2]