

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
```

Who, Whos

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]