

DOS: Our own DOS “dir” (Find Files)

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Hello again. This is first tutorial in DOS series. Here I’ll show you how to write your own dir function. Not very useful, but should give you some DOS knowledge. First thing we need to do is change DTA (Disk Transfer Area) table place. By default it’s mapped at address 0x80 in program segment, but it’s not very good, because it’s the same place were command line is stored.

```
mov ah, 0x1A
mov dx, DTA
int 21h
```

Simple, DX stores pointer to new DTA table. How does that DTA thing look like? Like that:

Offset	Size	Meaning
0	23 bytes	Data that only DOS needs
0x15	Byte	File attribute
0x16	Word	File creation/modification time
0x18	Word	File creation/modification date
0x1A	Word	File size
0x1C	Word	Unknown...
0x1E	13 Bytes	File name terminated with zero

Now, we have our table set up, we can find the first file.

```
mov ah, 0x4E
mov dx, query
int 21h
```

It’s pretty simple. DX stores pointer to search query (DOS dir argument) terminated with zero. Like:

```
db “*.*”, 0x0
db “*.com”, 0x0
```

Carry flag is set if file wasn’t found. If file was found DTA table is filled with files attributes. For all other files we want to find we use other call:

```
mov ah, 0x4F
mov dx, query
int 21h
```

If no more files found Carry Flag is set after the call, if file is found DTA table is filled with it's attributes. That's it. Grab the source to see how everything looks. Have fun!