

Re: how to count rows and columns of integers/doubles in a file?

Source: http://coding.derkeiler.com/Archive/C_CPP/comp.lang.c/2006-03/msg02339.html

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 - *Date:* Wed, 15 Mar 2006 22:05:45 -0800
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On Wed, 15 Mar 2006 20:32:04 +0100, "Martin Joergensen" <unoder.spam@xxxxxxxxxxxxxx> wrote:

Hi,

I have some files which has the following content:

```
0 0 0 0 0 0
0 1 1 1 1 0
0 1 1 1 1 0
0 1 1 1 1 0
0 1 1 1 1 0
0 0 0 0 0 0
```

I'm making a function for a bigger program, that

- 1) counts number of columns in each row
- 2) verifies that there are the same number of columns in each row (if not: error + quit)
- 3) increments row count after one row is finished
- 4) stops execution if it encounters anything that is not an integer (later: should also work for doubles)

My only problem is that I don't know how to switch line (carriage return) or how to detect it using scanf. Besides that, the program is almost finished. See below:

```
-----
#include <stdio.h>

void int_getdata(char *filename, unsigned int *x, unsigned int *y);

int main()
{
    unsigned int n_x[3], n_y[3];
```

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```
int_getdata("unknowns.dat", &n_x[0], &n_y[0] );
int_getdata("BC_types.dat", &n_x[1], &n_y[1] );
// double_getdata("BC_values.dat", &n_x[2], &n_y[2] );

return 0;
}

void int_getdata(char *filename, unsigned int *x, unsigned int
*y)
{
FILE *fp;

unsigned int old_nx;
int int_readvalue, returnvalue;
//double double_readvalue;

old_nx = 0; /* reset */
*x = 0;
*y = 0;

if ( ( fp = fopen(filename, "r") ) == NULL)
{
printf("Cannot open file %s.\n", filename);
system("PAUSE"); /* give the user at chance to see this
error before the windows shuts down */
exit(1);
}

/* get nx and ny */
do{
returnvalue = fscanf(fp, "%i", &int_readvalue); /* all
input must be valid */
```

fscanf will eat white space, including the `\n` that marks the end of line.

You could use `fgets` to get a complete line then `strtol` to process each value for correctness.

```
if(returnvalue == 1) (*x)++; /* nx is getting larger */
else{
printf("Error: non-valid input found in %s.\n",
filename);
exit(1);
}

if(int_readvalue == '\n')
```

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```
{
if(old_nx != 0 && old_nx != *x)
{
printf("ERROR: nx is not a constant in file
%s!\n", filename);
exit(1);
}
else /* we should now be sure that nx is constant and
move on to the next input line */
{
old_nx = *x;
y++; /* ny is getting larger */
*x = 0;
}
}
} while(returnvalue != EOF);

printf("\nFinished reading from file %s: (x,y) = (%i,%i).\n",
filename, *x, *y);
fclose(fp); /* close input file, finished reading values in
*/
}
```

I hope somebody can help me solve this small problem, so I can finish the program....

I also get these small warnings, but they are not critical:

warning C4013: 'system' undefined; assuming extern returning int

warning C4013: 'exit' undefined; assuming extern returning int

Best regards / Med venlig hilsen
Martin Jørgensen

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