

# fizzbuzz.sh

This script will print Fizz if the number evaluated is divisible by 3, Buzz if divisible by 5 and FizzBuzz if divisible by both, 3 and 5. If executed with no argument, the values 1..20 are evaluated and the result for each is printed on its own line. If passed an argument (which must be an integer), the loop will evaluate all numbers from 1..n where n is the passed integer argument.

I have added the ability to evaluate 0 and negative numbers also. The evaluation of zero is done statically and results in FizzBuzz and was included since I used regex to check that the passed argument is an integer containing 0-9 and the signs +, -. Zero is a valid combination of 10, so zero must also be allowed by itself. Also, since I allowed for signage, zero is allowed as 0, -0 and +0 – all evaluated to FizzBuzz.

## Screen captures:

Default/no parameter passed

```
tlael@tlael-ubuntu: ~/workspace/cs2750/project3
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ls -la
total 136
drwxrwxr-x 2 tlael tlael 4096 Apr 14 15:10 .
drwxrwxr-x 6 tlael tlael 4096 Apr 11 07:50 ..
-rwxr-xr-x 1 tlael tlael 1373 Apr 14 15:00 bookinfo.sh
-rw-rw-r-- 1 tlael tlael 1455 Apr 14 15:13 book_print
-rw-rw-r-- 1 tlael tlael 484 Apr 14 15:09 books
-rw-rw-r-- 1 tlael tlael 104559 Apr 11 07:52 CS2750_Project-3.pdf
-rwxr-xr-x 1 tlael tlael 1622 Apr 13 06:50 fizzbuzz.sh
-rwxr-xr-x 1 tlael tlael 281 Apr 14 09:49 flcln.sh
-rw-rw-r-- 1 tlael tlael 1544 Apr 14 14:56 README.txt
-rw-rw-r-- 1 tlael tlael 0 Apr 14 14:19 README.txt~
-rw-rw-r-- 1 tlael tlael 0 Apr 10 20:24 test2.zero
-rw-rw-r-- 1 tlael tlael 0 Apr 10 20:24 test2.zero
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./fizz*
1
2
Fizz
4
Buzz
Fizz
7
8
Fizz
Buzz
11
Fizz
13
14
FizzBuzz
16
17
Fizz
19
Buzz
tlael@tlael-ubuntu:~/workspace/cs2750/project3$
```

various parameters passed

```
tlael@tlael-ubuntu: ~/workspace/cs2750/project3
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./fizz* g
If used, argument must be an integer
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./fizz* 0
FizzBuzz
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./fizz* -9
-1
-2
Fizz
-4
Buzz
Fizz
-7
-8
Fizz
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./fizz* 9
1
2
Fizz
4
Buzz
Fizz
7
8
Fizz
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./fizz* 15
1
2
Fizz
4
Buzz
Fizz
7
8
Fizz
Buzz
11
Fizz
13
14
FizzBuzz
tlael@tlael-ubuntu:~/workspace/cs2750/project3$
```

## flcIn.sh

This script will list all files in a directory and its subdirectories and sort them based on size. When the result is displayed, only the size and file name is displayed. Any files with 0 size will cause the user to be prompted if they would like to delete such a file. Since this script spans subdirectories, the delete prompt will provide path for clarity of the location of the file to be deleted. If no argument is passed, the CWD is the directory where the search/sort/removal of empty files begins. One can also pass a path as an argument and that becomes the starting point for the search/sort/removal of empty files.

## Screen captures:

Default/no parameter passed

```
tlael@tlael-ubuntu: ~/workspace/cs2750/project3
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./flcln*
0      test2.zero
0      test.zero
4      bookinfo.sh
4      book_print
4      books
4      fizzbuzz.sh
4      flcln.sh
4      README.txt
104    CS2750_Project-3.pdf
rm: remove regular empty file './test.zero'? y
rm: remove regular empty file './test2.zero'? n
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./flcln*
0      test2.zero
4      bookinfo.sh
4      book_print
4      books
4      fizzbuzz.sh
4      flcln.sh
4      README.txt
104    CS2750_Project-3.pdf
rm: remove regular empty file './test2.zero'? █
```

Path passed

```
tlael@tlael-ubuntu: ~  
11 /accounts/students/t/tmlz5d/cs2750/project3> flc*^?  
flc*^?: No match  
12 /accounts/students/t/tmlz5d/cs2750/project3> ./flc* ./  
0 test2.zero  
0 test.zero  
0 test.zero  
1 books  
1 flcln.sh  
1 flcln.sh  
3 bookinfo.sh  
8 book_print  
8 fizzbuzz.sh  
8 fizzbuzz.sh  
rm: remove ../project2/mychmod/other.txt (yes/no)? n  
rm: remove ../project2/mychmod/test.doc (yes/no)? n  
rm: remove ../project2/mychmod/test.txt (yes/no)? n  
rm: remove ../project2/mychmod/test.xml (yes/no)? n  
rm: remove ../project2/mychmod/test1.doc (yes/no)? n  
rm: remove ../project2/mychmod/test2.doc (yes/no)? n  
rm: remove ../project2/mychmod/test2.txt (yes/no)? n  
rm: remove ../project2/mychmod/test3.doc (yes/no)? n  
rm: remove ../project2/mychmod/test3.txt (yes/no)? n  
rm: remove ../project2/mychmod/test4.txt (yes/no)? n  
rm: remove ../project2/mychmod/test5.txt (yes/no)? n  
rm: remove ../project3/level2/test.zero (yes/no)? n  
rm: remove ../project3/test.zero (yes/no)? n  
rm: remove ../project3/test2.zero (yes/no)? n  
13 /accounts/students/t/tmlz5d/cs2750/project3> █
```

## bookinfo.sh

This script allows the user to enter books into a comma delimited file, search that file and print formatted output of either the search results, or the entire contents. If the script is run with no argument, the user is prompted to enter one book's information. The user can also pass an integer which represents the number of books that they wish to enter. These entries are stored in a file named `books`. If the user passes `print` as the argument, the entire list is printed to a file called `book_print` in a column formatted layout. One can also search on specific keywords and those results will be printed to the same `book_print` file. Every time a print or search/print is performed, the same file is appended with the new results and the column header is printed at the top of the latest results for clarity. The search can use regex and the `-i` flag to perform case insensitive searches.

### Screen captures:

10 parameter passed to enter 10 books as requested

```

tlael@tlael-ubuntu: ~/workspace/cs2750/project3
total 132
drwxrwxr-x 2 tlael tlael 4096 Apr 14 14:59 .
drwxrwxr-x 6 tlael tlael 4096 Apr 11 07:50 ..
-rwxr-xr-x 1 tlael tlael 1373 Apr 14 14:32 bookinfo.sh
-rw-rw-r-- 1 tlael tlael 4 Apr 14 14:59 books
-rw-rw-r-- 1 tlael tlael 104559 Apr 11 07:52 CS2750_Project-3.pdf
-rwxr-xr-x 1 tlael tlael 1622 Apr 13 06:50 fltzzbuzz.sh
-rwxr-xr-x 1 tlael tlael 281 Apr 14 09:49 flcIn.sh
-rw-rw-r-- 1 tlael tlael 1544 Apr 14 14:56 README.txt
-rw-rw-r-- 1 tlael tlael 0 Apr 14 14:19 README.txt~
-rw-rw-r-- 1 tlael tlael 0 Apr 10 20:24 test2.zero
-rw-rw-r-- 1 tlael tlael 0 Apr 10 20:24 test.zero
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ rm books
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./book*.sh 10
Invalid argument
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ vim book*.sh
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./book*.sh 10
Title:
To Kill a Mockingbird
Author:
Harper Lee
Publisher:
Harper Perennial Modern Classics
Publication year:
2006
Title:
1984
Author:
George Orwell
Publisher:
Signet
Publication year:
1950
Title:
The Catcher in the Rye
Author:
J.D. Salinger
Publisher:
Back Bay Books
Publication year:
2001

```

File contents after 10 books entered:

```
tlael@tlael-ubuntu: ~/workspace/cs2750/project3
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ cat books
To Kill a Mockingbird,Harper Lee,Harper Perennial Modern Classics,2006
1984,George Orwell,Signet,1950
The Catcher in the Rye,J.D. Salinger,Back Bay Books,2001
The Great Gatsby,F. Scott,Scribner,2004
Animal Farm,George Orwell,Plume,2003
The Diary of a Young Girl,Anne Frank,Bantam Books,1993
The Hobbit,J.R.R. Tolkien,Houghton Mifflin,2002
The Little Prince,Antoine de Saint-Exupery,Harcourt,2000
Fahrenheit 451,Ray Bradbury,Voyager,2013
The Grapes of Wrath,John Steinbeck,Viking,2014
tlael@tlael-ubuntu:~/workspace/cs2750/project3$
```

Print all:

```
tlael@tlael-ubuntu: ~/workspace/cs2750/project3
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./book*.sh print
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ls -la
total 136
drwxrwxr-x 2 tlael tlael 4096 Apr 15 06:59 .
drwxrwxr-x 6 tlael tlael 4096 Apr 11 07:50 ..
-rwxr-xr-x 1 tlael tlael 1397 Apr 14 15:43 bookinfo.sh
-rw-rw-r-- 1 tlael tlael 1585 Apr 15 06:59 book_print
-rw-rw-r-- 1 tlael tlael 484 Apr 14 15:09 books
-rw-rw-r-- 1 tlael tlael 104559 Apr 11 07:52 CS2750_Project-3.pdf
-rwxr-xr-x 1 tlael tlael 1622 Apr 13 06:50 flzzbuzz.sh
-rwxr-xr-x 1 tlael tlael 305 Apr 15 06:55 flcln.sh
-rw-rw-r-- 1 tlael tlael 1544 Apr 14 14:56 README.txt
-rw-rw-r-- 1 tlael tlael 0 Apr 10 20:24 test2.zero
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ cat book_*
Title: Author: Publisher: Year:
To Kill a Mockingbird Harper Lee Harper Perennial Modern Classics 2006
1984 George Orwell Signet 1950
The Catcher in the Rye J.D. Salinger Back Bay Books 2001
The Great Gatsby F. Scott Scribner 2004
Animal Farm George Orwell Plume 2003
The Diary of a Young Girl Anne Frank Bantam Books 1993
The Hobbit J.R.R. Tolkien Houghton Mifflin 2002
The Little Prince Antoine de Saint-Exupery Harcourt 2000
Fahrenheit 451 Ray Bradbury Voyager 2013
The Grapes of Wrath John Steinbeck Viking 2014
tlael@tlael-ubuntu:~/workspace/cs2750/project3$
```

Print/Search:

```

tlael@tlael-ubuntu: ~/workspace/cs2750/project3
Publisher:
Harcourt
Publication year:
2000
Title:
Fahrenheit 451
Author:
Ray Bradbury
Publisher:
Voyager
Publication year:
2013
Title:
The Grapes of Wrath
Author:
John Steinbeck
Publisher:
Viking
Publication year:
2014
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./book*.sh -f Orwell print
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ls -la
total 136
drwxrwxr-x 2 tlael tlael 4096 Apr 14 15:10 .
drwxrwxr-x 6 tlael tlael 4096 Apr 11 07:50 ..
-rwxr-xr-x 1 tlael tlael 1373 Apr 14 15:00 bookinfo.sh
-rw-rw-r-- 1 tlael tlael 253 Apr 14 15:10 book_print
-rw-rw-r-- 1 tlael tlael 484 Apr 14 15:09 books
-rw-rw-r-- 1 tlael tlael 104559 Apr 11 07:52 CS2750_Project-3.pdf
-rwxr-xr-x 1 tlael tlael 1622 Apr 13 06:50 fizzbuzz.sh
-rwxr-xr-x 1 tlael tlael 281 Apr 14 09:49 flcIn.sh
-rw-rw-r-- 1 tlael tlael 1544 Apr 14 14:56 README.txt
-rw-rw-r-- 1 tlael tlael 0 Apr 14 14:19 README.txt~
-rw-rw-r-- 1 tlael tlael 0 Apr 10 20:24 test2.zero
-rw-rw-r-- 1 tlael tlael 0 Apr 10 20:24 test.zero
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ cat book_*
Title: Author: Publisher: Year:
1984 George Orwell Signet 1950
Animal Farm George Orwell Plume 2003
tlael@tlael-ubuntu:~/workspace/cs2750/project3$

```

Print/Search -i:

```

tlael@tlael-ubuntu: ~/workspace/cs2750/project3
Publication year:
2013
Title:
The Grapes of Wrath
Author:
John Steinbeck
Publisher:
Viking
Publication year:
2014
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./book*.sh -f Orwell print
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ls -la
total 136
drwxrwxr-x 2 tlael tlael 4096 Apr 14 15:10 .
drwxrwxr-x 6 tlael tlael 4096 Apr 11 07:50 ..
-rwxr-xr-x 1 tlael tlael 1373 Apr 14 15:00 bookinfo.sh
-rw-rw-r-- 1 tlael tlael 253 Apr 14 15:10 book_print
-rw-rw-r-- 1 tlael tlael 484 Apr 14 15:09 books
-rw-rw-r-- 1 tlael tlael 104559 Apr 11 07:52 CS2750_Project-3.pdf
-rwxr-xr-x 1 tlael tlael 1622 Apr 13 06:50 fizzbuzz.sh
-rwxr-xr-x 1 tlael tlael 281 Apr 14 09:49 flcIn.sh
-rw-rw-r-- 1 tlael tlael 1544 Apr 14 14:56 README.txt
-rw-rw-r-- 1 tlael tlael 0 Apr 14 14:19 README.txt~
-rw-rw-r-- 1 tlael tlael 0 Apr 10 20:24 test2.zero
-rw-rw-r-- 1 tlael tlael 0 Apr 10 20:24 test.zero
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ cat book_*
Title: Author: Publisher: Year:
1984 George Orwell Signet 1950
Animal Farm George Orwell Plume 2003
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ ./book*.sh -f -i orwell print
tlael@tlael-ubuntu:~/workspace/cs2750/project3$ cat book_*
Title: Author: Publisher: Year:
1984 George Orwell Signet 1950
Animal Farm George Orwell Plume 2003
tlael@tlael-ubuntu:~/workspace/cs2750/project3$

```

## Conclusions

Both, fizzbuzz.sh and flcIn.sh were simple scripts, but I did expand fizzbuzz.sh quite a bit to check the passed argument an to allow for negative numbers. Bookinfo was the most difficult

task and required that I spend quite a bit of time searching for the best solution. I did this using man pages and various bash scripting books and online resources. The column formatted text was the most difficult aspect to do correctly in the shell, but I was able to use grep piped to awk to provide a result I was happy with. Similar to the third part of project 2, this definitely was a challenge and provided a great learning experience.