

Sets Calculator

The task is to write a set calculator according to below specification. Grammar of calculator is given:

```
expression := "[" operator N sets "]"
sets := set | set sets
set := file | expression
operator := "EQ" | "LE" | "GR"
```

"file" is a file with sorted integers, one integer in a line.

"N" is a positive integer

Meaning of operators:

EQ - returns a set of integers which consists only from values which exists in exactly N sets - arguments of operator

LE - returns a set of integers which consists only from values which exists in less then N sets - arguments of operator

GR - returns a set of integers which consists only from values which exists in more then N sets - arguments of operator

Program should print the result on standard output: sorted integers, one integer in a line.

Solution should include: source code, building script (if building is needed). Final program should be able to run on Linux. Solution should be delivered in the tar archive file: "solution.tgz".

The task will be assessed taking into consideration the following criteria (sorted by severity):

1. compliance with specification and correctness
2. good programming practices (clean code)
3. clearness and readability of implemented algorithm
4. computational complexity

Example:

```
$ cat a.txt
1
2
3
```

```
$ cat b.txt
2
3
4
```

```
$ cat c.txt
```

```
1
```

```
2
```

```
3
```

```
4
```

```
5
```

```
$ ./scals [ GR 1 c.txt [ EQ 3 a.txt a.txt b.txt ] ]
```

```
2
```

```
3
```

```
$ ./scalc [ LE 2 a.txt [ GR 1 b.txt c.txt ] ]
```

```
1
```

```
4
```