

# Project 2: Unix Utilities

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## Features

| Feature  | What does  | Usage example (bash)  |
|----------|--|---|
| my-cat   | A simplified version of the `cat` utility that reads and displays file contents.     | ./my-cat test1.txt  |
| my-grep  | A simplified version of the `grep` utility that searches for text patterns in files. | ./my-grep foo test2.txt   |
| my-zip   | A file compression utility using run-length encoding.                                | ./my-zip test3.txt > compressed.z                                 |
| my-unzip | A file decompression utility for files compressed with my-zip.                       | ./my-unzip compressed.z<br>./my-unzip compressed.z > original.txt |

## Build

This project has Makefile

To build:

```
make
```

To clean:

```
make clean
```

Usage example:

```
• essej@JessePC:~/kaysys/projekti2$ make
  gcc -Wall -Werror -o my-cat my-cat.c
  gcc -Wall -Werror -o my-grep my-grep.c
  gcc -Wall -Werror -o my-zip my-zip.c
  gcc -Wall -Werror -o my-unzip my-unzip.c
• essej@JessePC:~/kaysys/projekti2$ ./my-cat test1.txt
Hello World
This is a test file
It has multiple lines
• essej@JessePC:~/kaysys/projekti2$ ./my-grep foo test2.txt
foo bar
This line has foo in it
foolish test
• essej@JessePC:~/kaysys/projekti2$ ./my-zip test3.txt > compressed.z
• essej@JessePC:~/kaysys/projekti2$ ./my-unzip compressed.z
aaaaaaaaabbbb
• essej@JessePC:~/kaysys/projekti2$ ./my-unzip compressed.z > original.txt
• essej@JessePC:~/kaysys/projekti2$ make clean
  rm -f my-cat my-grep my-zip my-unzip *.z *.o
✧ essej@JessePC:~/kaysys/projekti2$
```

| ≡ test1.txt X   | ... | ≡ test2.txt X   |
|---|-----|---|
| projekti2 > ≡ test1.txt<br>1 Hello World<br>2 This is a test file<br>3 It has multiple lines<br>4 |     | projekti2 > ≡ test2.txt<br>1 foo bar<br>2 This line has foo in it<br>3 Another line without the word<br>4 foolish test<br>5 |

| ≡ test3.txt X                                    | ... | ≡ original.txt U X                                  |
|--|-----|---|
| projekti2 > ≡ test3.txt<br>1 aaaaaaaaaabbbb<br>2 |     | projekti2 > ≡ original.txt<br>1 aaaaaaaaaabbbb<br>2 |