

Operációs rendszerek BSc

3. Gyak.

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Készítette:

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Programtervező informatikus

COLLER

Miskolc, 2022

A. feladat – Linux-terminál

1. feladat - Jegyzék szerkezet

Megvalósítás:

```
Terminal
File Edit View Search Terminal Help
holczer@lab101-02 ~ $ ls
bar      Downloads  Maildir    Pictures    szg_arch  while2.sh
Desktop  fu         Music      Public      Templates
Documents lista.txt  oraiwp     public_html Videos
holczer@lab101-02 ~ $ cd Desktop
holczer@lab101-02 ~/Desktop $ mkdir C0LLER
holczer@lab101-02 ~/Desktop $ cd C0LLER
holczer@lab101-02 ~/Desktop/C0LLER $ mkdir bush
holczer@lab101-02 ~/Desktop/C0LLER $ cd bush
holczer@lab101-02 ~/Desktop/C0LLER/bush $ mkdir banan
holczer@lab101-02 ~/Desktop/C0LLER/bush $ mkdir mogyoro
holczer@lab101-02 ~/Desktop/C0LLER/bush $ mkdir barack
holczer@lab101-02 ~/Desktop/C0LLER/bush $ cd C0LLER
bash: cd: C0LLER: No such file or directory
holczer@lab101-02 ~/Desktop/C0LLER/bush $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER $ mkdir tree
holczer@lab101-02 ~/Desktop/C0LLER $ cd tree
holczer@lab101-02 ~/Desktop/C0LLER/tree $ mkdir korte
holczer@lab101-02 ~/Desktop/C0LLER/tree $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER $ mkdir land
holczer@lab101-02 ~/Desktop/C0LLER $ cd land
holczer@lab101-02 ~/Desktop/C0LLER/land $ mkdir szeder
holczer@lab101-02 ~/Desktop/C0LLER/land $ mkdir kokusz
holczer@lab101-02 ~/Desktop/C0LLER/land $
```

2. feladat - Másolatok készítése

Megvalósítás:

```
Terminal
File Edit View Search Terminal Help
fails, or if --reflink=auto is specified, fall back to a standard copy.

The backup suffix is '~', unless set with --suffix or SIMPLE_BACKUP_SUFFIX.
The version control method may be selected via the --backup option or through
the VERSION_CONTROL environment variable. Here are the values:

  none, off      never make backups (even if --backup is given)
  numbered, t    make numbered backups
  existing, nil  numbered if numbered backups exist, simple otherwise
  simple, never  always make simple backups

As a special case, cp makes a backup of SOURCE when the force and backup
options are given and SOURCE and DEST are the same name for an existing,
regular file.

GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
Full documentation at: <http://www.gnu.org/software/coreutils/cp>
or available locally via: info '(coreutils) cp invocation'
holczer@lab101-02 ~/Desktop/C0LLER/land $ cd HOME
bash: cd: HOME: No such file or directory
holczer@lab101-02 ~/Desktop/C0LLER/land $ ls
kokusz  szeder
holczer@lab101-02 ~/Desktop/C0LLER/land $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER $ cd ..
holczer@lab101-02 ~/Desktop $ LS
The program 'LS' is currently not installed. To run 'LS' please ask your administrator to install the package 'ls'
holczer@lab101-02 ~/Desktop $ ls
holczer@lab101-02 ~/Desktop $ cp -R ~/Desktop/C0LLER/land/szeder ~/Desktop/C0LLER/tree
holczer@lab101-02 ~/Desktop $ cp -R ~/Desktop/C0LLER/bush/banan ~/Desktop/C0LLER/tree
holczer@lab101-02 ~/Desktop $
```

3. feladat – Áthelyezések

Megvalósítás:

```
Terminal
File Edit View Search Terminal Help
The backup suffix is '~', unless set with --suffix or SIMPLE_BACKUP_SUFFIX.
The version control method may be selected via the --backup option or through
the VERSION_CONTROL environment variable. Here are the values:

    none, off        never make backups (even if --backup is given)
    numbered, t      make numbered backups
    existing, nil    numbered if numbered backups exist, simple otherwise
    simple, never    always make simple backups

As a special case, cp makes a backup of SOURCE when the force and backup
options are given and SOURCE and DEST are the same name for an existing,
regular file.

GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
Full documentation at: <http://www.gnu.org/software/coreutils/cp>
or available locally via: info '(coreutils) cp invocation'
holczer@lab101-02 ~/Desktop/C0LLER/land $ cd HOME
bash: cd: HOME: No such file or directory
holczer@lab101-02 ~/Desktop/C0LLER/land $ ls
kokusz  szeder
holczer@lab101-02 ~/Desktop/C0LLER/land $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER $ cd ..
holczer@lab101-02 ~/Desktop $ LS
The program 'LS' is currently not installed. To run 'LS' please ask your administrator to install the p
ackage 'sl'
holczer@lab101-02 ~/Desktop $ ls
holczer@lab101-02 ~/Desktop $ cp -R ~/Desktop/C0LLER/land/szeder ~/Desktop/C0LLER/tree
holczer@lab101-02 ~/Desktop $ cp -R ~/Desktop/C0LLER/bush/banan ~/Desktop/C0LLER/tree
holczer@lab101-02 ~/Desktop $ mv ~/Desktop/C0LLER/bush/barack ~/Desktop/C0LLER/tree
holczer@lab101-02 ~/Desktop $ mv ~/Desktop/C0LLER/land/kokusz ~/Desktop/C0LLER/tree
holczer@lab101-02 ~/Desktop $
```

4. feladat – Katalógus törlés, szöveges állomány létrehozása

Megvalósítás:

```
Terminal
File Edit View Search Terminal Help
regular file.

GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
Full documentation at: <http://www.gnu.org/software/coreutils/cp>
or available locally via: info '(coreutils) cp invocation'
holczer@lab101-02 ~/Desktop/C0LLER/land $ cd HOME
bash: cd: HOME: No such file or directory
holczer@lab101-02 ~/Desktop/C0LLER/land $ ls
kokusz  szeder
holczer@lab101-02 ~/Desktop/C0LLER/land $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER $ cd ..
holczer@lab101-02 ~/Desktop $ LS
The program 'LS' is currently not installed. To run 'LS' please ask your administrator to install the p
ackage 'sl'
holczer@lab101-02 ~/Desktop $ ls
holczer@lab101-02 ~/Desktop $ cp -R ~/Desktop/C0LLER/land/szeder ~/Desktop/C0LLER/tree
holczer@lab101-02 ~/Desktop $ cp -R ~/Desktop/C0LLER/bush/banan ~/Desktop/C0LLER/tree
holczer@lab101-02 ~/Desktop $ mv ~/Desktop/C0LLER/bush/barack ~/Desktop/C0LLER/tree
holczer@lab101-02 ~/Desktop $ mv ~/Desktop/C0LLER/land/kokusz ~/Desktop/C0LLER/tree
holczer@lab101-02 ~/Desktop $ rm -r land
rm: cannot remove 'land': No such file or directory
holczer@lab101-02 ~/Desktop $ cd C0LLER
holczer@lab101-02 ~/Desktop/C0LLER $ rm -r land
holczer@lab101-02 ~/Desktop/C0LLER $ cd bush
holczer@lab101-02 ~/Desktop/C0LLER/bush $ cd banan
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo >description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER/bush $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER $ cd tree
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo >listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $
```

5. feladat – Szöveges állományokba írás

Megvalósítás:

```
Terminal
File Edit View Search Terminal Help
holczer@lab101-02 ~/Desktop/C0LLER $ cd bush
holczer@lab101-02 ~/Desktop/C0LLER/bush $ cd banan
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo >description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER/bush $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER $ cd tree
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo >listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo alma >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo barack >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo körte >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo cseresznye >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo meggy >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER $ cd bush
holczer@lab101-02 ~/Desktop/C0LLER/bush $ cd banan
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna piros >>description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna egy gyümölcs >>description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna finom >>description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo >description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna egy gyümölcs >description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna piros >>description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna finom >>description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER/bush $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER $ cd tree
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo alma>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo meggy >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo barack >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo körte >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo cseresznye >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $
```

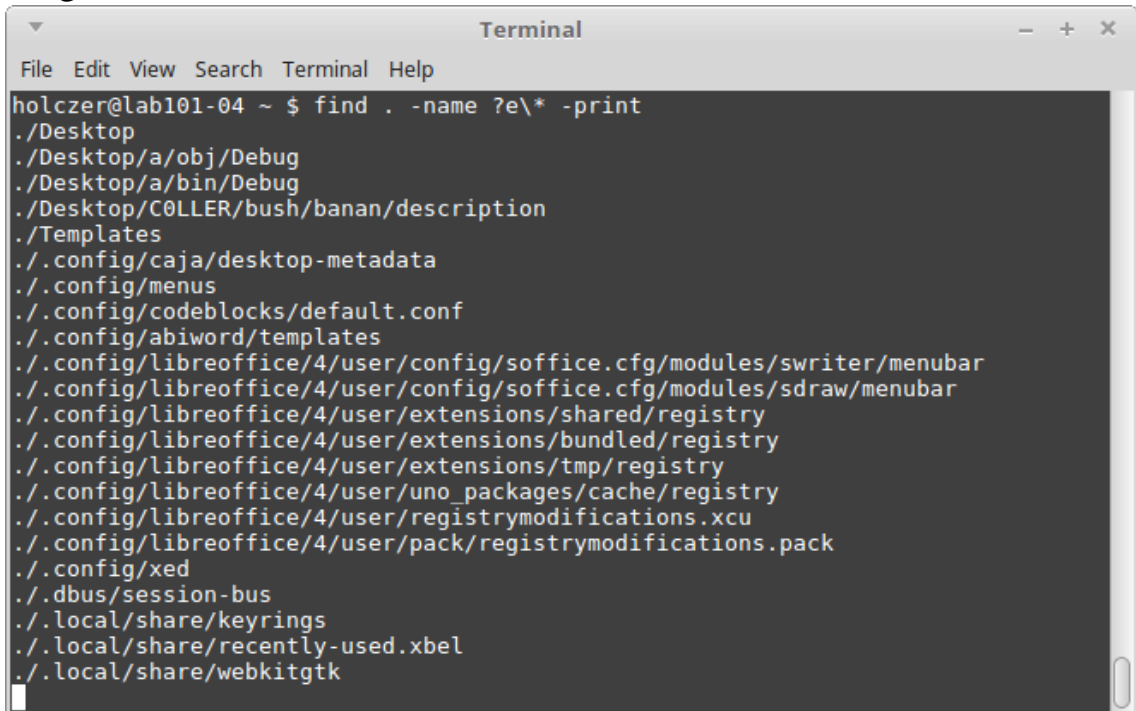
6. feladat – Katalógus listázása (alkatalógusokkal)

Megvalósítás:

```
Terminal
File Edit View Search Terminal Help
holczer@lab101-02 ~/Desktop/C0LLER $ cd bush
holczer@lab101-02 ~/Desktop/C0LLER/bush $ cd banan
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna piros >>description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna egy gyümölcs >>description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna finom >>description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo >description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna egy gyümölcs >description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna piros >>description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ echo A málna finom >>description
holczer@lab101-02 ~/Desktop/C0LLER/bush/banan $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER/bush $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER $ cd tree
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo alma>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo meggy >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo barack >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo körte >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ echo cseresznye >>listing
holczer@lab101-02 ~/Desktop/C0LLER/tree $ cd ..
holczer@lab101-02 ~/Desktop/C0LLER $ cd ..
holczer@lab101-02 ~/Desktop $ tree C0LLER
The program 'tree' is currently not installed. To run 'tree' please ask your administrator to install t
he package 'tree'
holczer@lab101-02 ~/Desktop $ ls C0LLER
bush tree
holczer@lab101-02 ~/Desktop $ ls #C0LLER
a C0LLER images
holczer@lab101-02 ~/Desktop $ ls -a C0LLER
. .. bush tree
holczer@lab101-02 ~/Desktop $ ls C0LLER
bush tree
holczer@lab101-02 ~/Desktop $
```

7. feladat – Olyan file-ok, amelyek nevének második betűje *e*

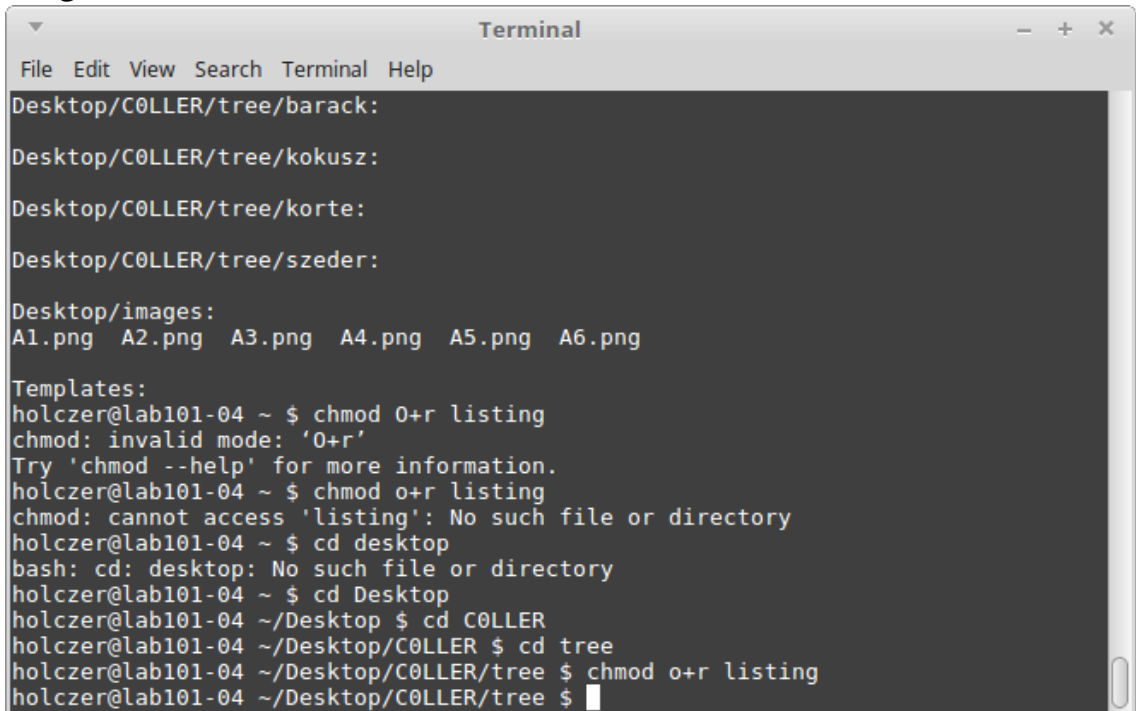
Megvalósítás:



```
Terminal
File Edit View Search Terminal Help
holczer@lab101-04 ~ $ find . -name ?e\* -print
./Desktop
./Desktop/a/obj/Debug
./Desktop/a/bin/Debug
./Desktop/C0LLER/bush/banan/description
./Templates
./.config/caja/desktop-metadata
./.config/menus
./.config/codeblocks/default.conf
./.config/abiword/templates
./.config/libreoffice/4/user/config/soffice.cfg/modules/swriter/menubar
./.config/libreoffice/4/user/config/soffice.cfg/modules/sdraw/menubar
./.config/libreoffice/4/user/extensions/shared/registry
./.config/libreoffice/4/user/extensions/bundled/registry
./.config/libreoffice/4/user/extensions/tmp/registry
./.config/libreoffice/4/user/uno_packages/cache/registry
./.config/libreoffice/4/user/registrymodifications.xcu
./.config/libreoffice/4/user/pack/registrymodifications.pack
./.config/xed
./.dbus/session-bus
./.local/share/keyrings
./.local/share/recently-used.xbel
./.local/share/webkitgtk
```

8. feladat – Fájl olvashatóvá tétele

Megvalósítás:



```
Terminal
File Edit View Search Terminal Help
Desktop/C0LLER/tree/barack:
Desktop/C0LLER/tree/kokus:
Desktop/C0LLER/tree/korte:
Desktop/C0LLER/tree/szeder:
Desktop/images:
A1.png A2.png A3.png A4.png A5.png A6.png
Templates:
holczer@lab101-04 ~ $ chmod 0+r listing
chmod: invalid mode: '0+r'
Try 'chmod --help' for more information.
holczer@lab101-04 ~ $ chmod o+r listing
chmod: cannot access 'listing': No such file or directory
holczer@lab101-04 ~ $ cd desktop
bash: cd: desktop: No such file or directory
holczer@lab101-04 ~ $ cd Desktop
holczer@lab101-04 ~/Desktop $ cd C0LLER
holczer@lab101-04 ~/Desktop/C0LLER $ cd tree
holczer@lab101-04 ~/Desktop/C0LLER/tree $ chmod o+r listing
holczer@lab101-04 ~/Desktop/C0LLER/tree $
```

9. feladat – Merevlemezen foglalt hely kilistázása (alkatalógus nélkül)

Megvalósítás:

```
Terminal
File Edit View Search Terminal Help
holczer@lab101-04 ~/Desktop $ du C0LLER
4      C0LLER/bush/banan
0      C0LLER/bush/mogyoro
4      C0LLER/bush
0      C0LLER/tree/korte
0      C0LLER/tree/szeder
0      C0LLER/tree/banan
0      C0LLER/tree/barack
0      C0LLER/tree/kokusz
4      C0LLER/tree
8      C0LLER
holczer@lab101-04 ~/Desktop $ man du
holczer@lab101-04 ~/Desktop $ man du
holczer@lab101-04 ~/Desktop $ du --max-depth=0 C0LLER
8      C0LLER
holczer@lab101-04 ~/Desktop $ cd C0LLER
holczer@lab101-04 ~/Desktop/C0LLER $ cd tree
holczer@lab101-04 ~/Desktop/C0LLER/tree $ sort listing
alma
barack
cseresznye
körte
meggy
holczer@lab101-04 ~/Desktop/C0LLER/tree $
```

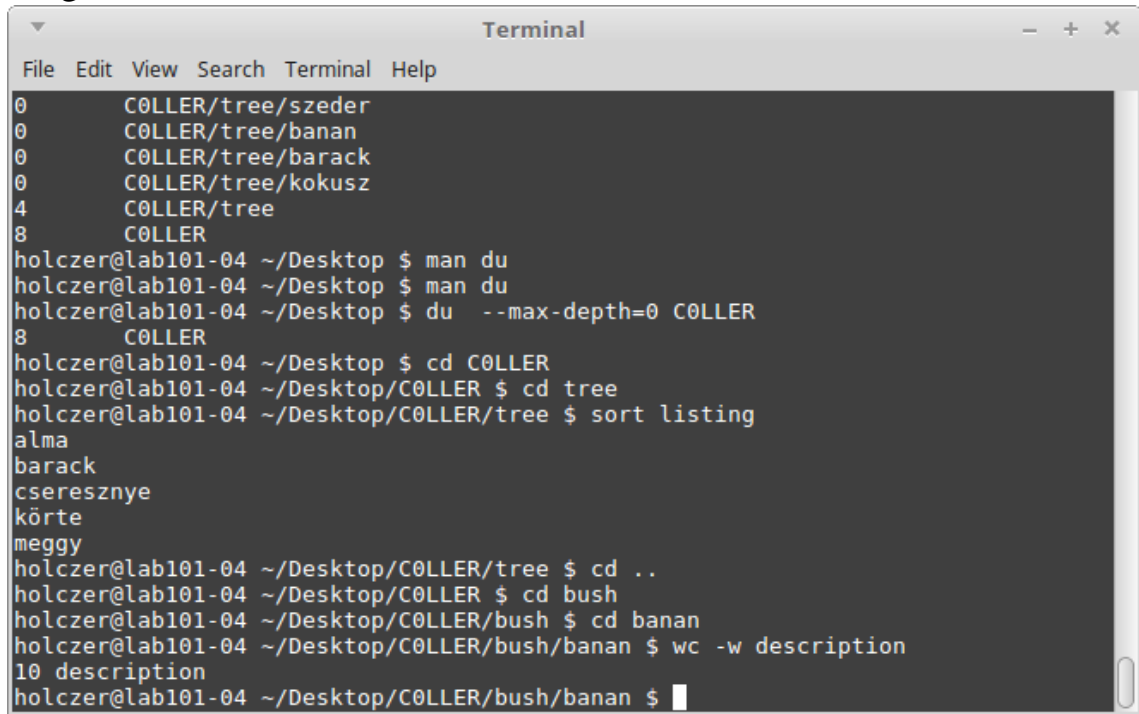
10.feladat – ABC-szerinti tartalomrendezés egy file-ban

Megvalósítás:

```
Terminal
File Edit View Search Terminal Help
holczer@lab101-04 ~/Desktop $ du C0LLER
4      C0LLER/bush/banan
0      C0LLER/bush/mogyoro
4      C0LLER/bush
0      C0LLER/tree/korte
0      C0LLER/tree/szeder
0      C0LLER/tree/banan
0      C0LLER/tree/barack
0      C0LLER/tree/kokusz
4      C0LLER/tree
8      C0LLER
holczer@lab101-04 ~/Desktop $ man du
holczer@lab101-04 ~/Desktop $ man du
holczer@lab101-04 ~/Desktop $ du --max-depth=0 C0LLER
8      C0LLER
holczer@lab101-04 ~/Desktop $ cd C0LLER
holczer@lab101-04 ~/Desktop/C0LLER $ cd tree
holczer@lab101-04 ~/Desktop/C0LLER/tree $ sort listing
alma
barack
cseresznye
körte
meggy
holczer@lab101-04 ~/Desktop/C0LLER/tree $
```


11.feladat – File-ban szereplő szavak megszámlálása

Megvalósítás:



```
Terminal
File Edit View Search Terminal Help
0 C0LLER/tree/szeder
0 C0LLER/tree/banan
0 C0LLER/tree/barack
0 C0LLER/tree/kokusz
4 C0LLER/tree
8 C0LLER
holczer@lab101-04 ~/Desktop $ man du
holczer@lab101-04 ~/Desktop $ man du
holczer@lab101-04 ~/Desktop $ du --max-depth=0 C0LLER
8 C0LLER
holczer@lab101-04 ~/Desktop $ cd C0LLER
holczer@lab101-04 ~/Desktop/C0LLER $ cd tree
holczer@lab101-04 ~/Desktop/C0LLER/tree $ sort listing
alma
barack
cseresznye
körte
meggy
holczer@lab101-04 ~/Desktop/C0LLER/tree $ cd ..
holczer@lab101-04 ~/Desktop/C0LLER $ cd bush
holczer@lab101-04 ~/Desktop/C0LLER/bush $ cd banan
holczer@lab101-04 ~/Desktop/C0LLER/bush/banan $ wc -w description
10 description
holczer@lab101-04 ~/Desktop/C0LLER/bush/banan $
```

B. feladat – *GTKStressTest* – Grafikus rendszer monitorozó

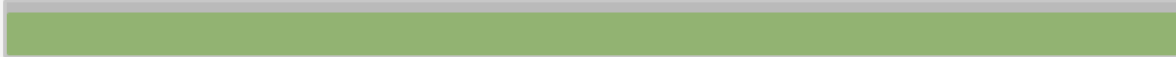
1. kijelző – Tesztelő beállításai (tesztek módja, ideje, magok száma)

Stress tests			
CPU: All methods	5 mins	Workers: Auto	Stop
Elapsed	1:01:17	Bogo Ops	BOPSUST

2. kijelző – CPU, memória és az alaplap adatai

▼ Processor					
Processor #0 ▶					
Name	AMD FX-8350	Cores	1		
Specification	AMD FX(tm)-8350 Eight-Core Processor	Threads	1		
Package	Microcode	0x6000626	Bogomips	7982.64	
Family	21 (15h)	Model	2 (2h)	Stepping	0 (0h)
Flags	MMX, (+), SSE(1, 2, 3, 3S, 4.1, 4.2, 4A), AVX(1), AES, CLMUL, x86-64	More...			
Bugs	Fxsave Leak, Null Seg, Spec Store Bypass, Spectre V1, Spectre V2, Sysret Ss Attrs	More...			
▼ Cache					
L1 Data	1 x 16 KiB (16 KiB)	4-way	64 sets		
L1 Inst.	1 x 64 KiB (64 KiB)	2-way	512 sets		
Level 2	1 x 2 MiB (2 MiB)	16-way	2048 sets		
Level 3	1 x 8 MiB (8 MiB)	64-way	2048 sets		
▼ Motherboard					
Vendor	Oracle Corporation	BIOS	Vendor	innotek GmbH	
Model	VirtualBox	Version	VirtualBox		
Revision	1.2	Date	12/01/2006		

3. kijelző – Aktuális értékek, melyek folyamatosan változnak

▼ CPU usage			
			
1			
User	Nice	System	
IO Wait	IRQ	Soft IRQ	
Steal	Guest	Guest Nice	
LoadAvg	0.64 (64.0%)	0.5 (50.0%)	0.26 (26.0%)
▼ Memory usage			
Total	6.26 GiB	Available	4.16 GiB

4. kijelző – A magok, szálak minimális, maximális és jelenlegi sebessége

Clocks			
Core	Current	Min	Max
▼ Processor 0			
Core #0	3991 MHz	3991 MHz	3991 MHz

5. kijelző – Hőfok, Amper és Volt számok

Hardware Monitor			
Core	Current	Min	Max