Úloha 1

Input file som použil /dev/zero nech zaplni nulami output file

Block size je 1 MiB a 32 blockov zapisujem.

dd if=/dev/zero of=crypt_fs.img bs=1M count=32

```
[rocky@rocky-student-32 ~]$ dd if=/dev/zero of=crypt_fs.img bs=1M count=32
32+0 records in
32+0 records out
33554432 bytes (34 MB, 32 MiB) copied, 0.0420578 s, 798 MB/s
[rocky@rocky-student-32 ~]$ sudo cryptsetup luksFormat crypt_fs.img

WARNING!
========
This will overwrite data on crypt_fs.img irrevocably.
```

na setup luks format pouzivam nasledovne:

sudo cryptsetup luksFormat crypt_fs.img

otvorim ho cez (zaroven sa namapuje do dev/mapper):

sudo cryptsetup open crypt_fs.img crypt_fs

dalej vytvorim EXT4 file system pomocou prikazu:

sudo mkfs.ext4 /dev/mapper/crypt_fs

```
[rocky@rocky-student-32 ~]$ sudo cryptsetup open crypt_fs.img crypt_fs
Enter passphrase for crypt_fs.img:
[rocky@rocky-student-32 ~]$ sudo mkfs.ext4 /dev/mapper/crypt_fs
mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 4096 4k blocks and 4096 inodes

Allocating group tables: done
Writing inode tables: done
Creating journal (1024 blocks): done
Writing superblocks and filesystem accounting information: done
```

Nasiel som ze nasledovny prikaz mozem pouzit na nastavenie label:

sudo e2label /dev/mapper/crypt_fs crypt_fs

rozhodol som sa pouzit tune2fs na zvysne veci:

sudo tune2fs -c 15 /dev/mapper/crypt_fs

sudo tune2fs -m 3 /dev/mapper/crypt_fs

a nakoniec mount:

sudo mount -o acl,quota,noexec /dev/mapper/encrypted_fs /tmp/crypt

este som muisel predtym vytvorit mount point /tmp/crypt:

sudo mkdir -p /tmp/crypt

```
[rocky@rocky-student-32 ~]$ sudo mount -o acl,quota,noexec /dev/mapper/crypt_fs
/tmp/crypt
mount: /tmp/crypt: mount point does not exist.
[rocky@rocky-student-32 ~]$ ^C
[rocky@rocky-student-32 ~]$
[rocky@rocky-student-32 ~]$
[rocky@rocky-student-32 ~]$ sudo mkdir -p /tmp/crypt
[rocky@rocky-student-32 ~]$ sudo mount -o acl,quota,noexec /dev/mapper/crypt_fs
/tmp/crypt
[rocky@rocky-student-32 ~]$ mount / grep /tmp/crypt
mount: bad usage
Try 'mount --help' for more information.
[rocky@rocky-student-32 ~]$ mount | grep /tmp/crypt
/dev/mapper/crypt_fs on /tmp/crypt type ext4 (rw,noexec,relatime,seclabel,quota,
usrquota)
```

A dalej som skusil spustit program:

```
[rocky@rocky-student-32 ~]$ sudo chown rocky:rocky /tmp/crypt
[rocky@rocky-student-32 ~]$ ls -ld /tmp/crypt
drwxr-xr-x. 3 rocky rocky 4096 Sep 23 14:24 /tmp/crypt
[rocky@rocky-student-32 ~]$ chmod 755 /tmp/crypt
[rocky@rocky-student-32 ~]$ echo -e '#!/bin/bash\n\necho "Test program running!"
' > /tmp/crypt/test_program.sh
[rocky@rocky-student-32 ~]$ /tmp/crypt/test_program.sh
-bash: /tmp/crypt/test_program.sh: Permission denied
```

Úloha 2

permissions a ownership:

sudo mkdir -p /tmp/crypt/prbit/public

sudo chown root:root /tmp/crypt/prbit /tmp/crypt/prbit/public

pouzijem setfacl na custom access pre group

sudo setfacl -m g:studenti:--- /tmp/crypt/prbit

sudo setfacl -m g:student:rx /tmp/crypt/prbit/public

dalej test.log

sudo touch /var/log/test.log

sudo chown root:root /var/log/test.log

sudo chmod 600 /var/log/test.log

admin prava:
sudo setfacl -m u:admin:r /var/log/test.log

append only:
sudo chattr +a /var/log/test.log