```
admin@raspberrypi:~ $ ls
2a.py   2d.py   3c.py      Bookshelf   Downloads                    Pictures                           Public
2b.py   3a.py   3d.py      Desktop     Music                        program-1.py                       Templates
2c.py   3b.py   4a,c.py    Documents   'object detection.py'        'program-2 led on off.py'          Videos
admin@raspberrypi:~ $ cd
admin@raspberrypi:~ $ cd /
admin@raspberrypi:/ $ pwd
/
admin@raspberrypi:/ $ touch a.txt
touch: cannot touch 'a.txt': Permission denied
admin@raspberrypi:/ $ cd /home/admin
admin@raspberrypi:~ $ touch a.txt
admin@raspberrypi:~ $ ls
2a.py   2d.py   3c.py      a.txt        Documents   'object detection.py'   'program-2 led on off.py'   Videos
2b.py   3a.py   3d.py      Bookshelf    Downloads   Pictures                Public
2c.py   3b.py   4a,c.py    Desktop      Music       program-1.py            Templates
admin@raspberrypi:~ $ mv a.txt /iot
mv: cannot move 'a.txt' to '/iot': Permission denied
admin@raspberrypi:~ $ mv a.txt /home/admin/iot
admin@raspberrypi:~ $ ls
2a.py   2d.py   3c.py      Bookshelf    Downloads   'object detection.py'   'program-2 led on off.py'   Videos
2b.py   3a.py   3d.py      Desktop      iot         Pictures                Public
2c.py   3b.py   4a,c.py    Documents    Music       program-1.py            Templates
admin@raspberrypi:~ $ cd iot
bash: cd: iot: Not a directory
admin@raspberrypi:~ $ cd /home/admin/iot
bash: cd: /home/admin/iot: Not a directory
admin@raspberrypi:~ $ rm iot
admin@raspberrypi:~ $ ls
2a.py   2d.py   3c.py      Bookshelf    Downloads                    Pictures                           Public
2b.py   3a.py   3d.py      Desktop      Music                        program-1.py                       Templates
2c.py   3b.py   4a,c.py    Documents    'object detection.py'        'program-2 led on off.py'          Videos
admin@raspberrypi:~ $
```
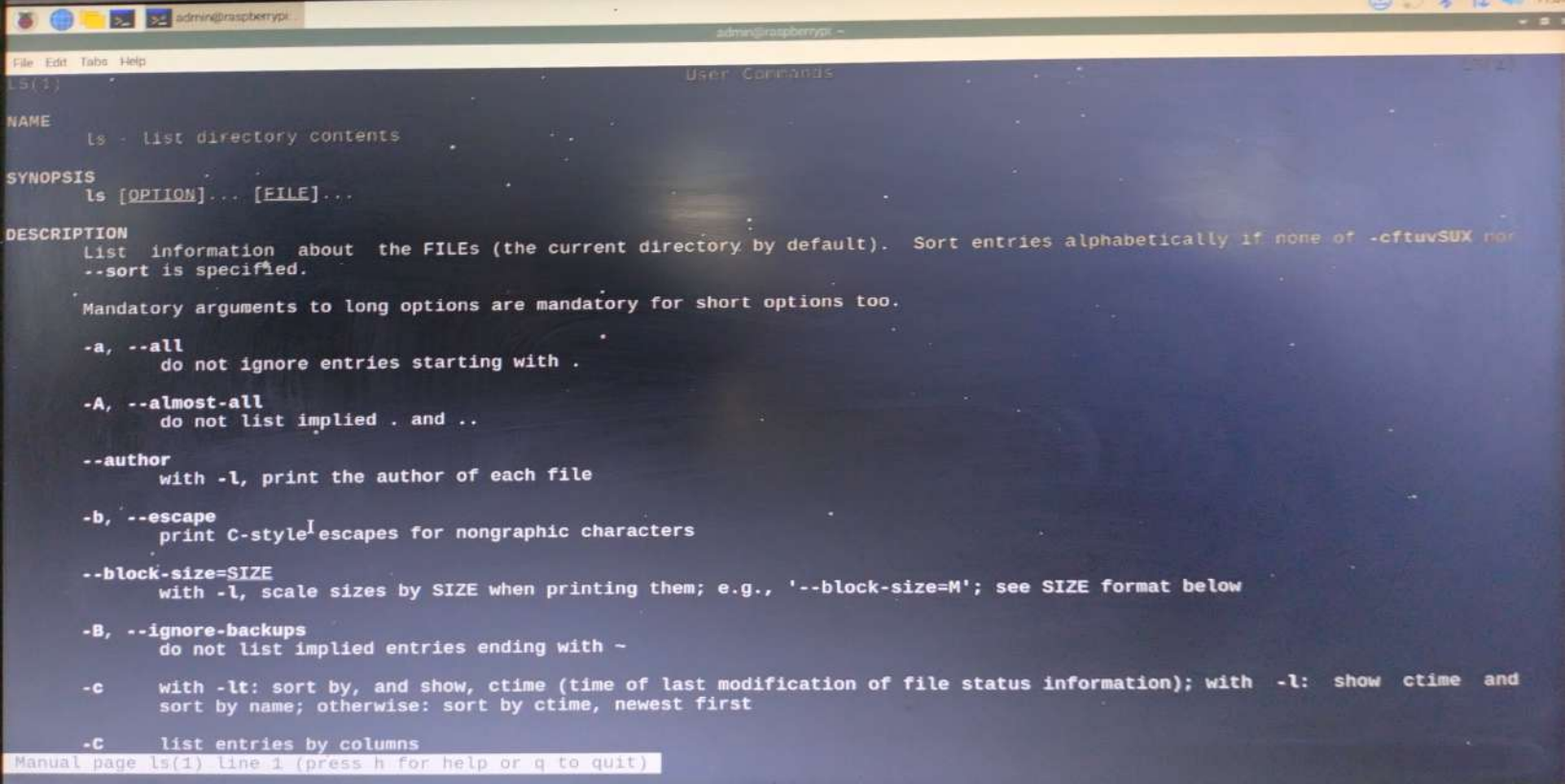
LS(1)

NAME
       ls - list directory contents

SYNOPSIS
       ls [OPTION]... [FILE]...

DESCRIPTION
       List   information   about   the FILEs (the current directory by default).   Sort entries alphabetically if none of -cftuvSUX nor
       --sort is specified.

       Mandatory arguments to long options are mandatory for short options too.

       -a, --all
              do not ignore entries starting with .

       -A, --almost-all
              do not list implied . and ..

       --author
              with -l, print the author of each file

       -b, --escape
              print C-style escapes for nongraphic characters

       --block-size=SIZE
              with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M'; see SIZE format below

       -B, --ignore-backups
              do not list implied entries ending with ~

       -c   with -lt: sort by, and show, ctime (time of last modification of file status information); with -l: show ctime and
              sort by name; otherwise: sort by ctime, newest first

       -C   list entries by columns
Manual page ls(1) line 1 (press h for help or q to quit)

```
admin@raspberrypi:~ $ man
What manual page do you want?
For example, try 'man man'.
admin@raspberrypi:~ $ man ls
admin@raspberrypi:~ $ mkdir iot
admin@raspberrypi:~ $ ls
2a.py   2d.py   3c.py      Bookshelf   Downloads   'object detection.py'   'program-2 led on off.py'   Videos
2b.py   3a.py   3d.py      Desktop     iot         Pictures                Public
2c.py   3b.py   4a,c.py    Documents   Music       program-1.py            Templates
admin@raspberrypi:~ $ rmdir iot
admin@raspberrypi:~ $ ls
2a.py.  2d.py   3c.py      Bookshelf   Downloads              Pictures                      Public
2b.py   3a.py   3d.py      Desktop     Music                  program-1.py                  Templates
2c.py   3b.py   4a,c.py    Documents   'object detection.py'  'program-2 led on off.py'     Videos
admin@raspberrypi:~ $ touch abc.txt
admin@raspberrypi:~ $ touch abcd.txt
admin@raspberrypi:~ $ tar -cvf archive.tar abc.txt abcd.txt
abc.txt
abcd.txt
admin@raspberrypi:~ $ ls
2a.py   2d.py   3c.py      abcd.txt       Bookshelf   Downloads              Pictures                      Public
2b.py   3a.py   3d.py      abc.txt        Desktop     Music                  program-1.py                  Templates
2c.py   3b.py   4a,c.py    archive.tar    Documents   'object detection.py'  'program-2 led on off.py'     Videos
admin@raspberrypi:~ $ gzip abcd.txt
admin@raspberrypi:~ $ ls
2a.py   2d.py   3c.py      abcd.txt.gz    Bookshelf   Downloads              Pictures                      Public
2b.py   3a.py   3d.py      abc.txt        Desktop     Music                  program-1.py                  Templates
2c.py   3b.py   4a,c.py    archive.tar    Documents   'object detection.py'  'program-2 led on off.py'     Videos
admin@raspberrypi:~ $ cat abc.txt
admin@raspberrypi:~ $ cat 2a.py
name =("Ram:")
print("Hello", name + "!")admin@raspberrypi:~ $ more 3d.py
file_path = ("Enter the file path:")
try:
    with open(file_path,'r') as file:
                line_number = 1
                for line in file:
                        words = line.strip().split()
```

```python
file_path = ("Enter the file path:")
try:
    with open(file_path,'r') as file:
        line number = 1
        for line in file:
            words = line.strip().split()
            word_count = len(words)
            print(f"Line{line number}:{word count}words")
        line _number += 1
    except FileNotFoundError:
        print("Error:File Not found.Please check the file path.")
    except Exception as e:
        print(f"An error occurred:{e}")
```
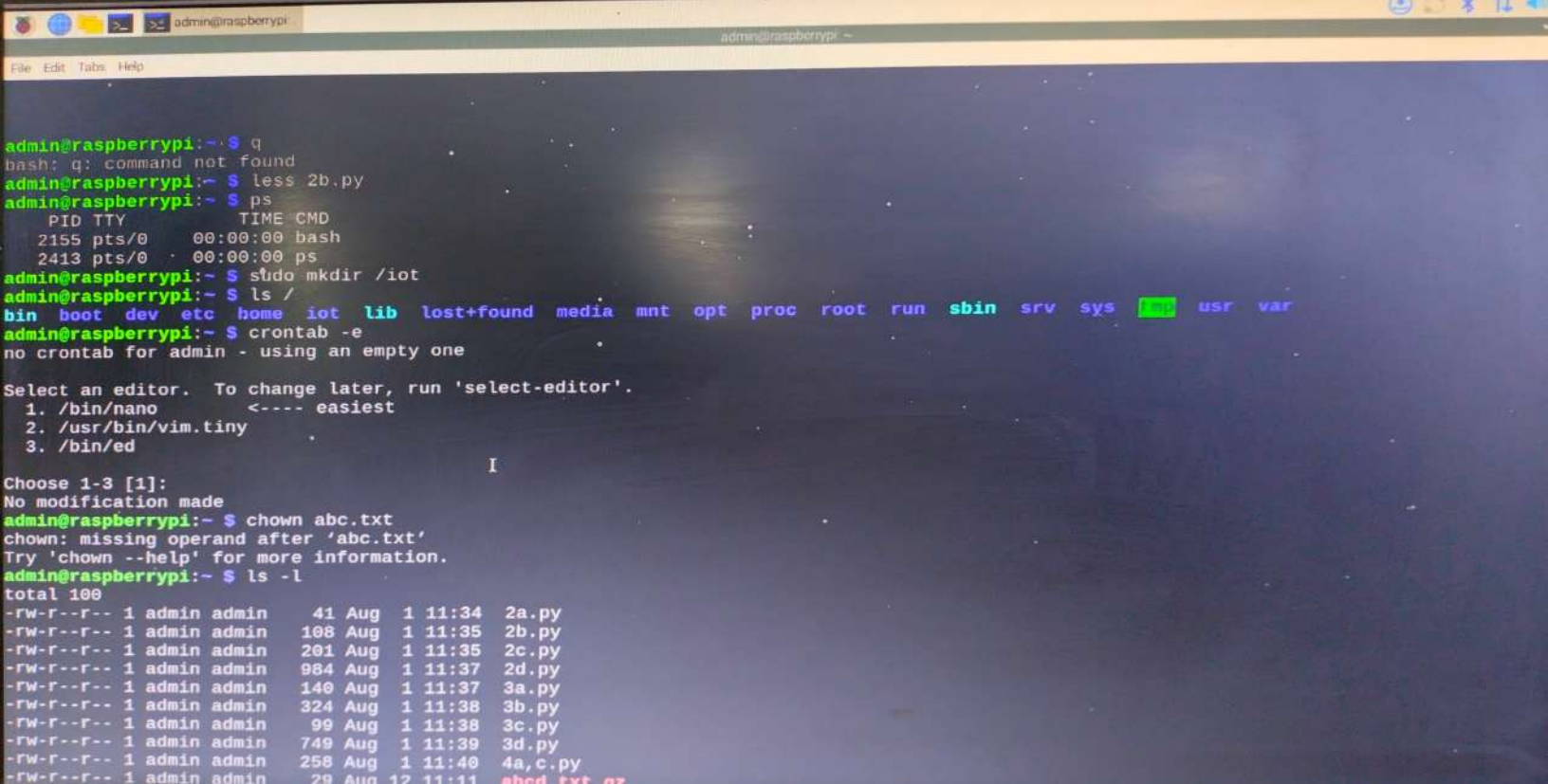
```
admin@raspberrypi:~ $ q
bash: q: command not found
admin@raspberrypi:~ $ less 2b.py
admin@raspberrypi:~ $ ps
    PID TTY          TIME CMD
   2155 pts/0    00:00:00 bash
   2413 pts/0    00:00:00 ps
admin@raspberrypi:~ $ sudo mkdir /iot
admin@raspberrypi:~ $ ls /
bin  boot  dev  etc  home  iot  lib  lost+found  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
admin@raspberrypi:~ $ crontab -e
no crontab for admin - using an empty one

Select an editor.  To change later, run 'select-editor'.
  1. /bin/nano        <---- easiest
  2. /usr/bin/vim.tiny
  3. /bin/ed

Choose 1-3 [1]:
No modification made
admin@raspberrypi:~ $ chown abc.txt
chown: missing operand after 'abc.txt'
Try 'chown --help' for more information.
admin@raspberrypi:~ $ ls -l
total 100
-rw-r--r-- 1 admin admin     41 Aug  1 11:34  2a.py
-rw-r--r-- 1 admin admin    108 Aug  1 11:35  2b.py
-rw-r--r-- 1 admin admin    201 Aug  1 11:35  2c.py
-rw-r--r-- 1 admin admin    984 Aug  1 11:37  2d.py
-rw-r--r-- 1 admin admin    140 Aug  1 11:37  3a.py
-rw-r--r-- 1 admin admin    324 Aug  1 11:38  3b.py
-rw-r--r-- 1 admin admin     99 Aug  1 11:38  3c.py
-rw-r--r-- 1 admin admin    749 Aug  1 11:39  3d.py
-rw-r--r-- 1 admin admin    258 Aug  1 11:40  4a,c.py
-rw-r--r-- 1 admin admin     29 Aug 12 11:11  abcd.txt.gz
```

```
-rw-r--r-- 1 admin admin   256 Aug  1 11:33  program-2 led on off.py
drwxr-xr-x 2 admin admin  4096 Aug  1 10:18  Public
drwxr-xr-x 2 admin admin  4096 Aug  1 10:18  Templates
drwxr-xr-x 2 admin admin  4096 Aug  1 10:18  Videos
admin@raspberrypi:~ $ sudo chown root abc.txt
admin@raspberrypi:~ $ ls -l abc.txt
-rw-r--r-- 1 root admin 0 Aug 12 11:10 abc.txt
admin@raspberrypi:~ $ sudo chgrp root abc.txt
admin@raspberrypi:~ $ ls -l abc.txt
-rw-r--r-- 1 root root 0 Aug 12 11:10 abc.txt
admin@raspberrypi:~ $ ip addr show
1: lo:.<LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether d8:3a:dd:14:61:a3 brd ff:ff:ff:ff:ff:ff
    inet 172.17.12.6/20 brd 172.17.15.255 scope global dynamic noprefixroute eth0
       valid_lft 5065sec preferred_lft 5065sec
    inet6 fe80::1ff4:82be:99f2:741d/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
3: wlan0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc pfifo_fast state DOWN group default qlen 1000
    link/ether d8:3a:dd:14:61:a5 brd ff:ff:ff:ff:ff:ff
admin@raspberrypi:~ $ ping 172.17.12.6
PING 172.17.12.6 (172.17.12.6) 56(84) bytes of data.
64 bytes from 172.17.12.6: icmp_seq=1 ttl=64 time=0.081 ms
64 bytes from 172.17.12.6: icmp_seq=2 ttl=64 time=0.056 ms
64 bytes from 172.17.12.6: icmp_seq=3 ttl=64 time=0.120 ms
64 bytes from 172.17.12.6: icmp_seq=4 ttl=64 time=0.119 ms
64 bytes from 172.17.12.6: icmp_seq=5 ttl=64 time=0.068 ms
^C
--- 172.17.12.6 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4090ms
rtt min/avg/max/mdev = 0.056/0.088/0.120/0.026 ms
admin@raspberrypi:~ $ ls -l abc.txt
```