Command Line Basics 2/2
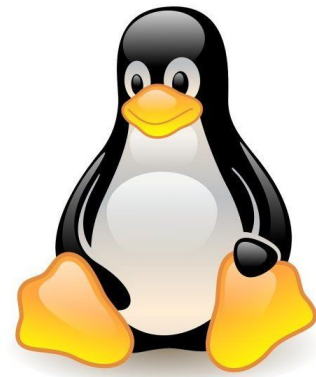
Linux Essentials
Session-3

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Command Prompt

User Name

Host Name

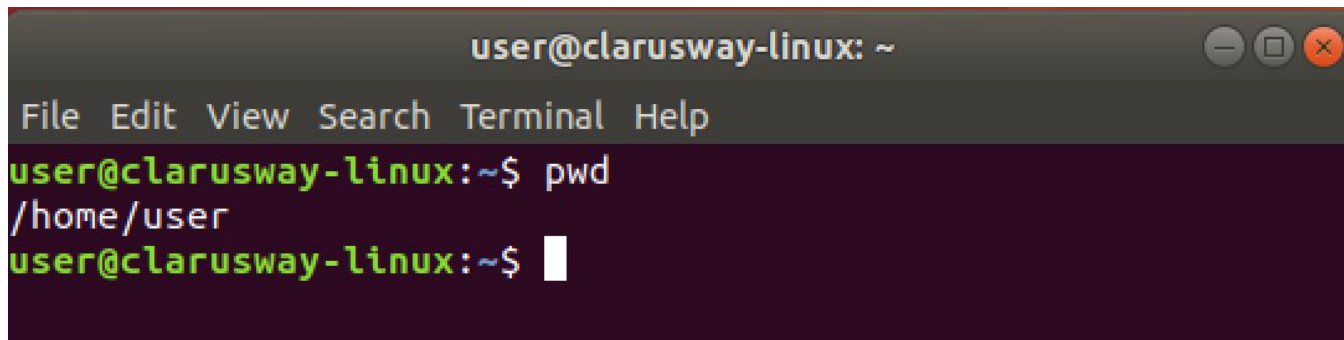Current Directory

user@clarusway-linux: ~/test

File   Edit   View   Search   Terminal   Help

user@clarusway-linux:~/test$

User Type
$ normal user
# Privileged user

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2
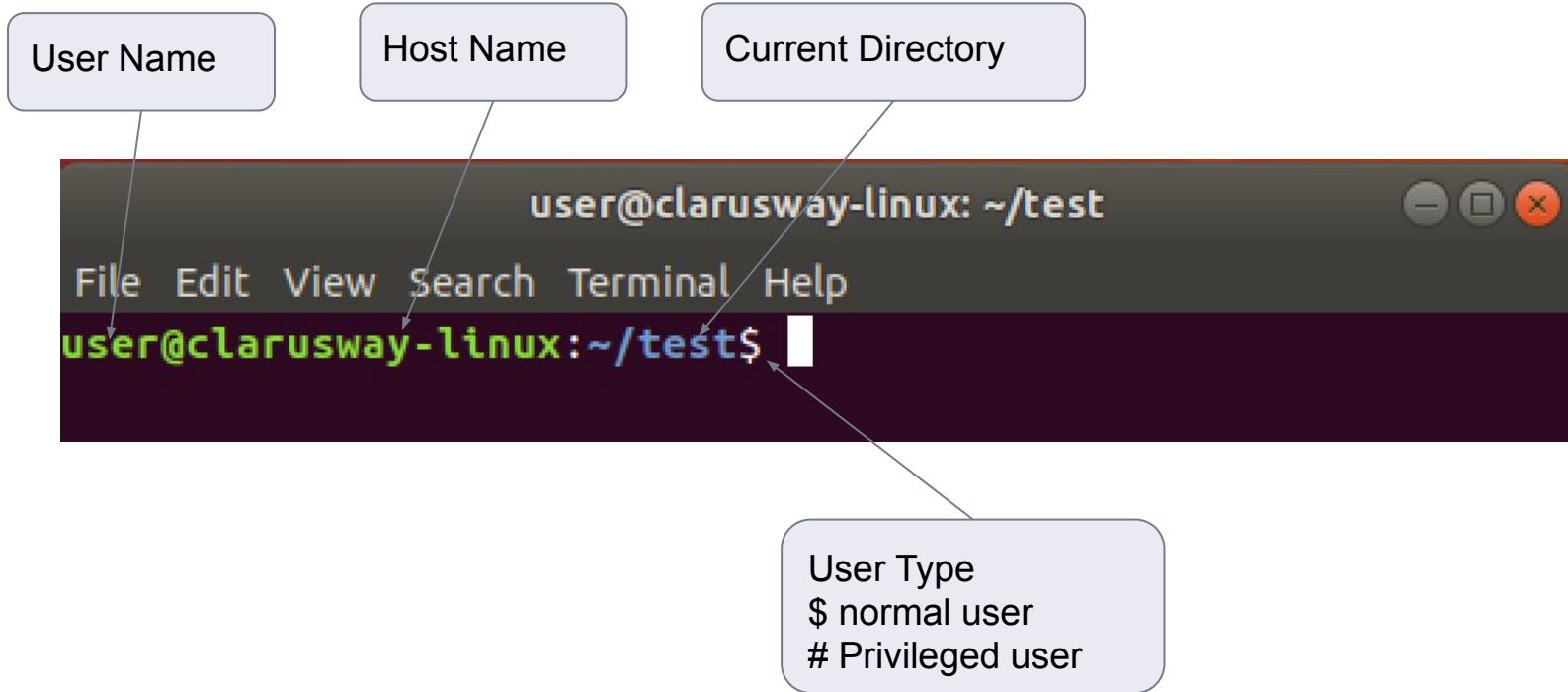
GUI
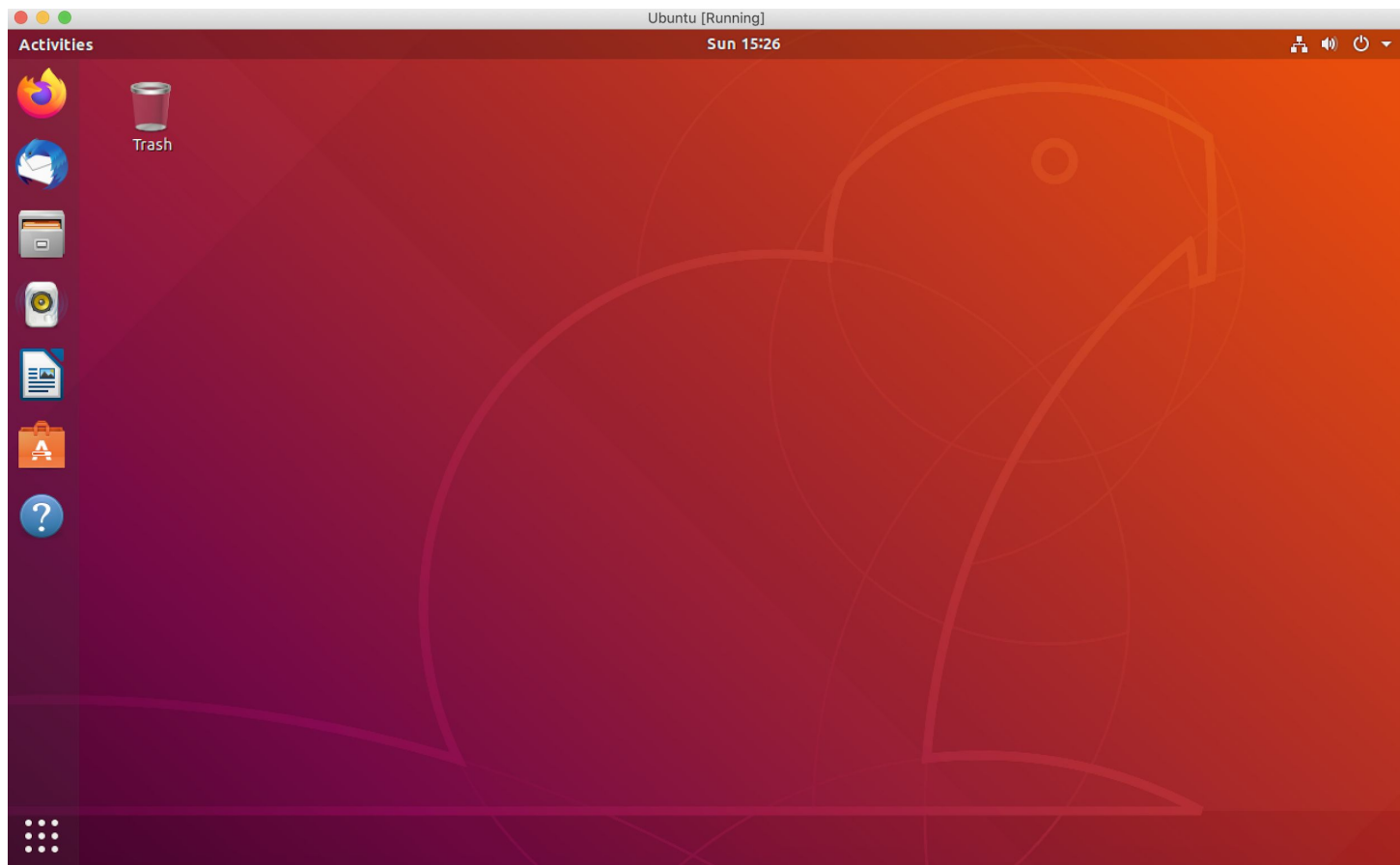
Basic Shell Commands

pwd   show current path

Basic Shell Commands

whoami   current user
hostname   shows the system hostname
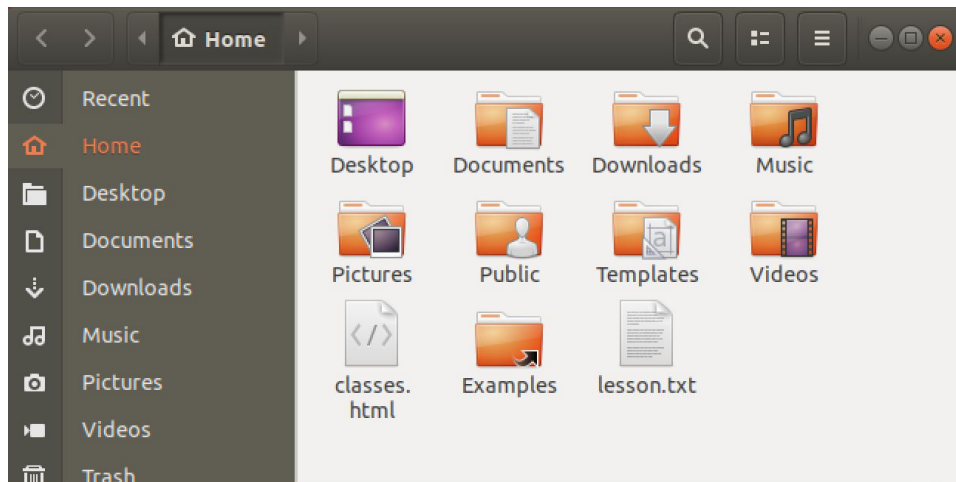**hostname -i**   Show the IP address of the system


```
robert@robert-virtual-machine:~$ users
robert
robert@robert-virtual-machine:~$ hostname
robert-virtual-machine
robert@robert-virtual-machine:~$ hostname -i
127.0.1.1
robert@robert-virtual-machine:~$
```

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Basic Shell Commands

ls   **lists** directory contents

ls -l   lists directory contents with **details**

ls -al   lists all the contents with **hidden** ones

Basic Shell Commands

cd [dir]   change (current) directory
cd ..   change current directory to one level up
cd /   change current directory to the root directory
cd ~   change current directory to the home directory

Basic Shell Commands

mkdir [dir]   create a new directory

Basic Shell Commands

rmdir [dir]   delete an empty directory

Basic Shell Commands

touch   create a file

echo   create a file and write string inside

cat >

```
user@clarusway-linux:~$ ls
clarusway        Downloads         Pictures    Videos
classes.html     examples.desktop  Public
Desktop          lesson.txt        Templates
Documents        Music             test
user@clarusway-linux:~$ touch test-file.txt
user@clarusway-linux:~$ ls
clarusway        Downloads         Pictures    test-file.txt
classes.html     examples.desktop  Public      Videos
Desktop          lesson.txt        Templates
Documents        Music             test
user@clarusway-linux:~$
```

File   Edit   View   Search   Terminal   Help

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Basic Shell Commands

rm delete a file

Basic Shell Commands

cp copy a file to another location

Basic Shell Commands

mv move a file to another location
renaming the file

Basic Shell Commands

echo   print message to screen
echo > [file] print message into a file
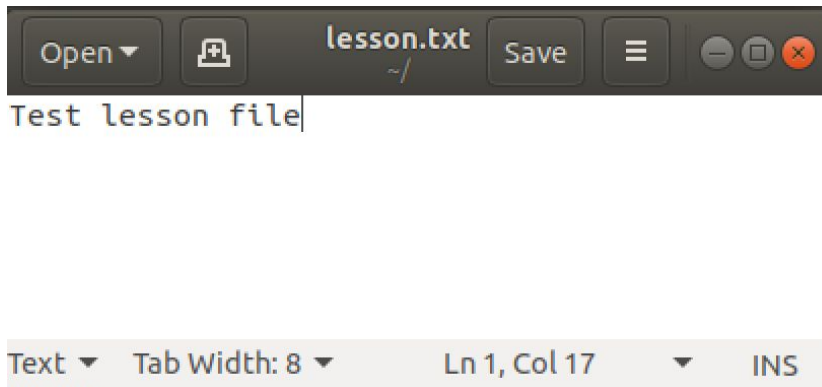
```
                        user@clarusway-linux: ~

 File  Edit  View  Search  Terminal  Help
user@clarusway-linux:~$ echo "test"
test
user@clarusway-linux:~$ cat test-file.txt
user@clarusway-linux:~$ echo "test" > test-file.txt
user@clarusway-linux:~$ cat test-file.txt
test
user@clarusway-linux:~$ █
```
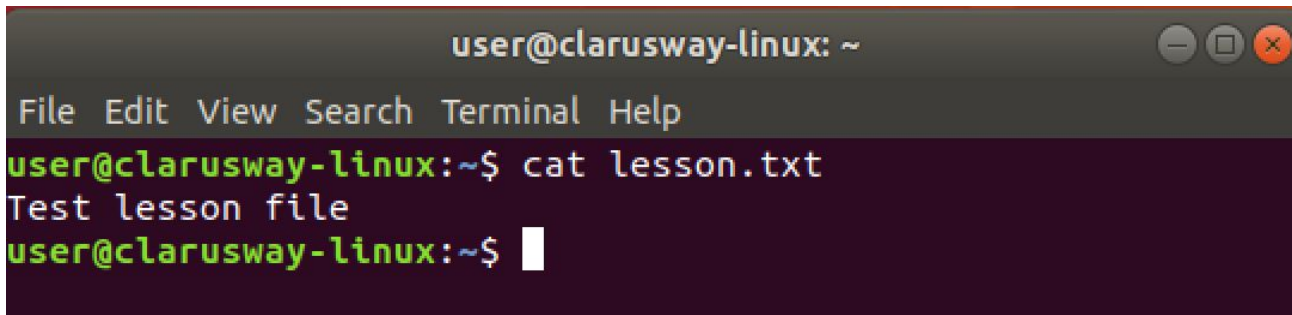
Basic Shell Commands

cat   show file contents

Basic Shell Commands

head   show first 10 lines from file contents

tail   show last 10 lines from file contents

```
robert@robert-virtual-machine:~$ head a.txt
You do not do, you do not do
Any more, black shoe
In which I have lived like a foot
For thirty years, poor and white,
Barely daring to breathe or Achoo.

Daddy, I have had to kill you.
You died before I had time—
Marble-heavy, a bag full of God,
Ghastly statue with one gray toe
```

```
robert@robert-virtual-machine:~$ tail a.txt
Where it pours bean green over blue
In the waters off beautiful Nauset.
I used to pray to recover you.
Ach, du.

In the German tongue, in the Polish town
Scraped flat by the roller
Of wars, wars, wars.
But the name of the town is common.
My Polack friend
```

Simple Globbing

Globbing is primarily used to match patterns in filenames or text by using a wildcard character to create a pattern.

Character	Name	Function
?	**Question mark**	**Match any single character**
*	**Asterisk**	**Match any number of character(s)**
[]	Brackets	Match character from a range
^	Caret	Used to match starting character
$	Dollar sign	Used to match ending character
{}	Curly brace	Used to match more than one pattern
|	Pipe	Used for applying more than one condition

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Hidden Files and Directories

Any file or directory starts with period (.)
.abc

```
root@DESKTOP-4QQ1S5L:~# ls
root@DESKTOP-4QQ1S5L:~# ls -a
      .bash_history  .bashrc  .profile  .viminfo
root@DESKTOP-4QQ1S5L:~# touch .file5
root@DESKTOP-4QQ1S5L:~# ls -a
      .bash_history  .bashrc  .file5  .profile  .viminfo
root@DESKTOP-4QQ1S5L:~#
```

How to Hide
Files And
Directories
in Linux

Kahoot!

Basic SHELL Commands

Basic SHELL Commands

File Commands

ls – directory listing
ls -al – formatted listing with hidden files
cd *dir* - change directory to *dir*
cd – change to home
pwd – show current directory
mkdir *dir* – create a directory *dir*
rm *file* – delete *file*
rm -r *dir* – delete directory *dir*
rm -f *file* – force remove *file*
rm -rf *dir* – force remove directory *dir* *
cp *file1* *file2* – copy *file1* to *file2*
cp -r *dir1* *dir2* – copy *dir1* to *dir2*; create *dir2* if it doesn't exist
mv *file1* *file2* – rename or move *file1* to *file2*
if *file2* is an existing directory, moves *file1* into directory *file2*
ln -s *file* *link* – create symbolic link *link* to *file*
touch *file* – create or update *file*
cat > *file* – places standard input into *file*
more *file* – output the contents of *file*
head *file* – output the first 10 lines of *file*
tail *file* – output the last 10 lines of *file*
tail -f *file* – output the contents of *file* as it grows, starting with the last 10 lines

Process Management

ps – display your currently active processes
top – display all running processes

System Info

date – show the current date and time
cal – show this month's calendar
uptime – show current uptime
w – display who is online
whoami – who you are logged in as
finger *user* – display information about *user*
uname -a – show kernel information
cat /proc/cpuinfo – cpu information
cat /proc/meminfo – memory information
man *command* – show the manual for *command*
df – show disk usage
du – show directory space usage
free – show memory and swap usage
whereis *app* – show possible locations of *app*
which *app* – show which *app* will be run by default

Compression

tar cf *file.tar* *files* – create a tar named *file.tar* containing *files*
tar xf *file.tar* – extract the files from *file.tar*
tar czf *file.tar.gz* *files* – create a tar with Gzip compression
tar xzf *file.tar.gz* – extract a tar using Gzip
tar cjf *file.tar.bz2* – create a tar with Bzip2 compression
tar xjf *file.tar.bz2* – extract a tar using Bzip2
gzip *file* – compresses *file* and renames it to *file.gz*

Basic SHELL Commands

File system Commands	
ls	lists directories and files
ls -a	lists all files including hidden files
ls -lh	formatted list including more data
ls -t	lists sorted by date
pwd	returns path to working directory
cd *dir*	changes directory
cd ..	goes to parent directory
cd /	goes to root directory
cd	goes to home directory
touch *file_name*	creates en empty file
cp *file file_copy*	copy a file
cp -r	copy files contained in directories
rm *file*	deletes a file
rm -r *dir*	deletes a directory and its files
mv *file1 file2*	moves or renames a file
mkdir *dir_name*	creates a directory
rmdir *dir_name*	deletes a directory

Text handling commands	
command > *file*	saves STDOUT in a file
command >> *file*	appends STDOUT in a file
cat *file*	concatenate and print files
cat *file1 file2* > *file3*	merges files 1 and 2 into *file3*
cat *file* > all.fasta	concatenates all fasta files in the current directory
head *file*	prints first lines from a file
head -n 5 *file*	prints first five lines from a file
tail *file*	prints last lines from a file
tail -n 5 *file*	prints last five lines from a file
less *file*	view a file
less -N *file*	includes line numbers
less -S *file*	wraps long lines
grep '*pattern*' *file*	Prints lines matching a pattern
grep -c '*pattern*' *file*	counts lines matching a pattern
cut -f 1,3 *file*	retrieves data from selected columns in a tab-delimited file
sort *file*	sorts lines from a *file*

Using the Command Line to Get Help

Table of Contents

- ▶ Man Pages
- ▶ Info Pages

1 Man Pages

Man Pages

man [command]

A man page (short for manual page) is a form of software documentation usually found on a Unix or Unix-like operating system.

if we install a package to do some task, the man Page for that package will typically be installed at the same time. This gives us the ability to take a look at that documentation and make sure that we're using it in a manner consistent with its design.

The man page for a particular command is invoked by preceding the command with **man.**

MAN

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Man Pages

man ls

```
LS(1)                              User Commands                             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
              scale sizes by SIZE before printing them; e.g., '--block-size=M' prints sizes  in  units  of  1,048,576
              bytes; 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

       --color[=WHEN]
              colorize the output; WHEN can be 'always' (default if omitted), 'auto', or 'never'; more info below

       -d, --directory
              list directories themselves, not their contents
 Manual page ls(1) line 1 (press h for help or q to quit)
```

NAME
Program or Function name(s) followed by descriptions of functionality.

SYNOPSIS
A short overview of available options

DESCRIPTION
Detailed information about arguments and options.

CI

Info Pages

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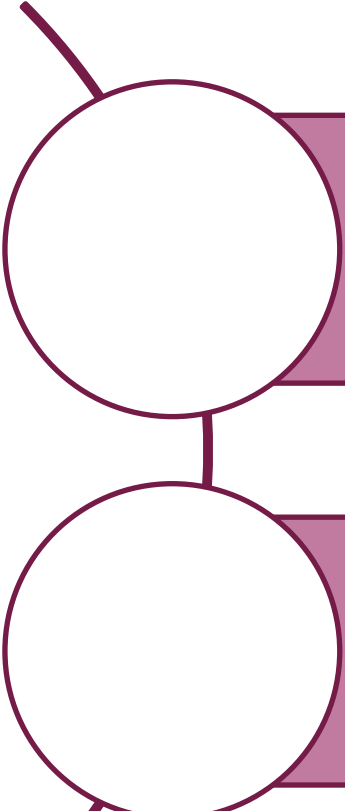
Info Pages

info [command]

Info pages are additional documentation with more robust capability in detail. Info Page normally provides more detailed information about a command than its respective man page. Additionally, Info uses a structure for linking these pages together, and they may be assembled into a larger collection.

The info page for a particular command is invoked by preceding the command with **info**

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Info Pages

info echo

```
Next: printf invocation,  Up: Printing text

15.1 'echo': Print a line of text
=================================

'echo' writes each given STRING to standard output, with a space between
each and a newline after the last one.  Synopsis:

     echo [OPTION]... [STRING]...

   Due to shell aliases and built-in 'echo' functions, using an
unadorned 'echo' interactively or in a script may get you different
functionality than that described here.  Invoke it via 'env' (i.e., 'env
echo ...') to avoid interference from the shell.

   The program accepts the following options.  Also see *note Common
options::.  Options must precede operands, and the normally-special
argument '--' has no special meaning and is treated like any other
STRING.

'-n'
     Do not output the trailing newline.

'-e'
     Enable interpretation of the following backslash-escaped characters
     in each STRING:

     '\a'
          alert (bell)
     '\b'
          backspace
     '\c'
          produce no further output
     '\e'
          escape
     '\f'
          form feed
     '\n'
          newline
     '\r'
          carriage return
     '\t'
-----Info: (coreutils)echo invocation, 78 lines --Top--------------------------
Welcome to Info version 6.5.  Type H for help, h for tutorial.
```

THANKS!

Any questions?