

Test Book

Test Book contains some special notebook cells that Open Education Project supports.

General cell tests are supported by [Jupyter Book](#).

1. Special Displays

In this part of this book we will cover some cells that have special displays.

If there's any misalignment with the baseline, please refer to the called functions in `common.py` file.

List:

- 1.1 - A sample image that use customized styles
- 1.2 - Display String in customized styles
- 1.3 - Display terminal shell command results
- 1.4 - Display bash command in customized styles
- 1.5 - Use HTML and CSS to customize styles

```
%run -i ../python/common.py
bash = BashSession()
```

1.1. A sample image that use customized styles

```
display(Markdown(htmlFig("../images/sample-image.jpg",
    align="left",
    margin="auto 3em 0 auto",
    width="100%", id="fig:vnv",
    caption="Figure: A Sample Image that use special style")))
```



Figure: A Sample Image that use special style

1.2. Display String in customized styles

```
X=np.uint8(0xae)
XL=np.bitwise_and(X,0xf)
XH=np.bitwise_and(np.right_shift(X,4),0xf)
```

```
displayStr("0b10101110 = 0x"+format(X,"02X"), size="4em", align="center")
```

0b10101110 = 0xAE

1.3. Display terminal shell command results

```
TermShellCmd('hello')
```

```
$ hello
```

Command 'hello' not found, but can be installed with:

```
snap install hello          # version 2.10, or
apt install hello           # version 2.10-2ubuntu2
apt install hello-traditional # version 2.10-5
```

See 'snap info hello' for additional versions.

```
$
```

1.4. Display bash command in customized styles

```
bash.run("man mkdir", height="10em")
```

```
$ man mkdir
MKDIR(1)                                User Commands                                MKDIR(1)

NAME
    mkdir - make directories

SYNOPSIS
    mkdir [OPTION]... DIRECTORY...

DESCRIPTION
    Create the DIRECTORY(ies), if they do not already exist.

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

    -m, --mode=MODE
        set file mode (as in chmod), not a=rwx - umask

    -p, --parents
        no error if existing, make parent directories as needed

    -v, --verbose
        print a message for each created directory

    -Z
        set SELinux security context of each created directory to the
        default type

    --context[=CTX]
        like -Z, or if CTX is specified then set the SELinux or SMACK
        security context to CTX

    --help display this help and exit

    --version
        output version information and exit

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REPORTING BUGS
    GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
    Report mkdir translation bugs to <https://translationproject.org/team/>

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    GPL version 3 or later <https://gnu.org/licenses/gpl.html>.
    This is free software: you are free to change and redistribute it.
    There is NO WARRANTY, to the extent permitted by law.

SEE ALSO
    mkdir(2)

    Full documentation at: <https://www.gnu.org/software/coreutils/mkdir>
    or available locally via: info '(coreutils) mkdir invocation'


GNU coreutils 8.30                      September 2019                      MKDIR(1)
runner@fv-az424-424:~$
```

```
del bash
```

1.5. Use HTML and CSS to customize styles

This is the example of image overlapping with backgrounds.



 This is some sample texts.: This is some sample texts.This is some sample
texts.This is some sample texts. This is some sample texts. This is some sample
texts. This is some sample texts. This is some sample texts. This is some
sample texts. This is some sample texts. This is some sample texts. This is some sample
texts. This is some sample texts. This is some sample texts. This is some sample texts.
This is some sample texts. This is some sample texts. This is some sample texts. This is
some sample texts. This is some sample texts. This is some sample texts.



2. Animation Examples

In this part of this book we will cover some special animated cells.

If there's any misalignment with the baseline, unless noted above the cell output, please refer to the called functions in `common.py` file.

List:

- 2.1 - Display bytes in special styles
- 2.2 - Display series of slide images
- 2.3 - Display html table
- 2.4 - Display iframe - other website
- 2.5 - Display iframe - other interactive media player
- 2.6 - Display iframe - interactive terminal media player

```
%run -i ../python/common.py
```

2.1. Display bytes in special styles

```
X=np.uint8(0xae)
XL=np.bitwise_and(X,0xf)
XH=np.bitwise_and(np.right_shift(X,4),0xf)
```

```
displayBytes([[0x00],[0xff]], labels=["ALL OFF", "ALL ON"])
```

| | $[b_7$ | b_6 | b_5 | b_4 | b_3 | b_2 | b_1 | $b_0]$ |
|---------|--------|-------|-------|-------|-------|-------|-------|--------|
| ALL OFF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALL ON | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

| $[b_7$ | b_6 | b_5 | b_4 | b_3 | b_2 | b_1 | $b_0]$ |
|--------|-------|-------|-------|-------|-------|-------|--------|
| 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |

2.2. Display series of slide images

```
display(mkImgsAnimateBox(dir="../images/imported_slides",
#                               force=True,
                               saveto="save1.html",
files=['General_Presentation_1.jpg',
'General_Presentation_2.jpg',
'General_Presentation_3.jpg',
'General_Presentation_4.jpg',
'General_Presentation_5.jpg',
'General_Presentation_6.jpg'
]))
```

Optional section marker or title

Quick tip

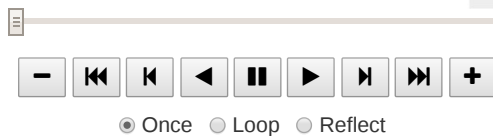
Insert image in this designated area, deleting the shaded background. Keep the left, right, top, and bottom margins clear to maintain the open feel in accordance with the brand.

CONFIDENTIAL designator

Optional subheading

Optional supporting copy. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed diam nonummy nibh euismod tincidunt ut laoreet magna aliquam.

V0000000 Red Hat



2.3. Display html table

Table Shell Control Operators

| Control Operator | Description |
|------------------|---|
| newline | End of line |
| | Or list operator |
| && | And list operator |
| ; | Sequential list operator |
| | Pipe Operator |
| & | Background Operator |
| (| Subshell list begin Operator |
|) | Subshell list end Operator |
| :: | Case statement end matching Operator |
| ;& | Case statement fall through Operator |
| ::& | Case statement continue matching Operator |

2.4. Display iframe - other website

```
display(IFrame("https://en.wikipedia.org/wiki/List_of_Unix_commands", height=600,
width="100%"))
```

[illegible]

External links

Utilities listed in POSIX.1-2017

List

| Name | Category | Status (Option code) | Description | First appeared |
|--------------|----------|----------------------|---|----------------|
| <u>admin</u> | SCCS | Optional (XSI) | Create and administer <u>SCCS</u> files | PWB UNIX |
| <u>alias</u> | Misc | Mandatory | Define or display aliases | |
| <u>ar</u> | Misc | Mandatory | Create and maintain library archives | Version 1 |

```
display(HTML(''  
<iframe src="https://jappavoo.github.io/SOL6502/index.html", height="980px"  
width="100%"></iframe>  
''))
```

CPU - SOL 6502

General Purpose Registers

Index X
Index Y
Accumulator A
Stack Pointer S
Processor Status P
NV BDIZC

The Loop!

Operation
Addr Mode
Execute
Fetch
Decode

IR
PC

Data Bus Buffer
Address Bus Buffer

RAM/ROM (Memory)

| | |
|----|----|
| 0 | 0 |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| 8 | 8 |
| 9 | 9 |
| 10 | 10 |
| 11 | 11 |
| 12 | 12 |
| 13 | 13 |
| 14 | 14 |
| 15 | 15 |
| 16 | 16 |
| 17 | 17 |
| 18 | 18 |
| 19 | 19 |
| 20 | 20 |
| 21 | 21 |
| 22 | 22 |
| 23 | 23 |

Memory Buses and Decoder

Input Device

Output Device

help

step

run

halt

reset

Load img:

Animation On:

Speed:

SOL6502 ASCII CONSOLE TERMINAL: device address 1111111100000000

Status:

clear

2.6. Display iframe - interactive terminal media player

If this cell (#2.6) has any misalignment with the baseline, please refer to the source code:

<https://jappavoo.github.io/SOL6502>

```
display(HTML(''
<iframe src="https://jappavoo.github.io/SOL6502/ascinema/atext.html",
height="600x" width="100%"></iframe>
'))
```

