Test Book

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

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

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

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

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:vnm",
           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

AUTHOR
       Written by David MacKenzie.

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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       Copyright © 2018 Free Software Foundation, Inc.   License  GPLv3+:  GNU
       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-az121-850:~$
```

```
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.

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

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

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'
          ]))
```
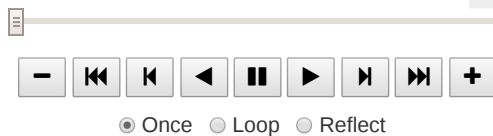

2.3. Display html table

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%"))
```

WIKIPEDIA

List of Unix commands

This is a list of Unix commands as specified by IEEE Std 1003.1-2008, which is part of the Single UNIX Specification (SUS). These commands can be found on Unix operating systems and most Unix-like operating systems.

Utilities listed in POSIX.1-2017

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List

See also

Footnotes

External links

List

IEEE Std 1003.1-2008 utilities				
Name	Category	Status (Option code)	Description	First appeared
admin	SCCS	Optional (XSI)	Create and administer SCCS files	PWB UNIX
alias	Misc	Mandatory	Define or display aliases	
ar	Misc	Mandatory	Create and maintain library archives	Version 1

2.5. Display iframe - other interactive media player

```
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 [   ]

Procersor Status P [   ]

NV BDIZC

The Loop!
Fetch

Operation [   ]

Addr Mode [   ]

Execute   Decode

IR [   ]   PC [0000000000000000]

Data Bus Buffer [00000000]   Address Bus Buffer [0000000000000000]

Memory Buses and Decoder

[   ]   [   ]

Input Device   **Output Device**

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

[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/asciinema/atest.html",
height="600x" width="100%"></iframe>
'''))
```

00:00