

```
Python 3.6.1 |Anaconda 4.4.0 (x86_64)| (default, May 11 2017,
13:04:09)
Type "copyright", "credits" or "license" for more information.
```

```
IPython 5.3.0 -- An enhanced Interactive Python.
?          -> Introduction and overview of IPython's features.
%quickref  -> Quick reference.
help       -> Python's own help system.
object?    -> Details about 'object', use 'object??' for extra
details.
```

```
In [1]:
```

```
In [1]:
```

```
In [1]:
```

```
In [1]:
```

```
In [1]: runfile('/Users/vickimoore/.spyder-py3/springboard-
jsondatawrangling-cleaner.py', wdir='/Users/vickimoore/.spyder-
py3')
=====BOOKKEEPING INFO=====
```

	_id	approvalfy
board_approval_month \		
0 {'\$oid': '52b213b38594d8a2be17c780'}		1999
November		
1 {'\$oid': '52b213b38594d8a2be17c781'}		2015
November		
2 {'\$oid': '52b213b38594d8a2be17c782'}		2014
November		
3 {'\$oid': '52b213b38594d8a2be17c783'}		2014
October		
4 {'\$oid': '52b213b38594d8a2be17c784'}		2014
October		

	boardapprovaldate	borrower
\		
0	2013-11-12T00:00:00Z	FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
1	2013-11-04T00:00:00Z	GOVERNMENT OF TUNISIA
2	2013-11-01T00:00:00Z	MINISTRY OF FINANCE AND ECONOMIC DEVEL
3	2013-10-31T00:00:00Z	MIN. OF PLANNING AND INT'L COOPERATION
4	2013-10-31T00:00:00Z	MINISTRY OF FINANCE

```
closingdate
country_namecode \
```

```

0 2018-07-07T00:00:00Z Federal Democratic Republic of Ethiopia!
$!ET
1 NaN Republic of Tunisia!
$!TN
2 NaN Tuvalu!
$!TV
3 NaN Republic of Yemen!
$!RY
4 2019-04-30T00:00:00Z Kingdom of Lesotho!
$!LS

```

```

countrycode countryname
countryshortname \
0 ET Federal Democratic Republic of Ethiopia
Ethiopia
1 TN Republic of Tunisia
Tunisia
2 TV Tuvalu
Tuvalu
3 RY Republic of Yemen Yemen,
Republic of
4 LS Kingdom of Lesotho
Lesotho

```

```

source \ ... sectorcode
0 ... ET,BS,ES,EP
IBRD
1 ... BZ,BS
IBRD
2 ... TI
IBRD
3 ... JB
IBRD
4 ... FH,YW,YZ
IBRD

```

```

status supplementprojectflg \
0 Active N
1 Active N
2 Active Y
3 Active N
4 Active N

```

```

theme1 \
0 {'Percent': 100, 'Name': 'Education for all'}
1 {'Percent': 30, 'Name': 'Other economic manage...

```

```

2  {'Percent': 46, 'Name': 'Regional integration'}
3  {'Percent': 50, 'Name': 'Participation and civ...
4  {'Percent': 30, 'Name': 'Export development an...

```

	theme_namecode	themecode
totalamt \		
0 [{"code": '65', 'name': 'Education for all'}]		65
130000000		
1 [{"code": '24', 'name': 'Other economic manage...}		54,24
0		
2 [{"code": '47', 'name': 'Regional integration'...}	52,81,25,47	
6060000		
3 [{"code": '57', 'name': 'Participation and civ...}		59,57
0		
4 [{"code": '45', 'name': 'Export development an...}		41,45
13100000		

	totalcommamt	url
0 130000000	http://www.worldbank.org/projects/P129828/ethi...	
1 4700000	http://www.worldbank.org/projects/P144674?lang=en	
2 6060000	http://www.worldbank.org/projects/P145310?lang=en	
3 1500000	http://www.worldbank.org/projects/P144665?lang=en	
4 13100000	http://www.worldbank.org/projects/P144933/seco...	

```

[5 rows x 50 columns]
Index(['_id', 'approvalfy', 'board_approval_month',
'boardapprovaldate',
'borrower', 'closingdate', 'country_namecode',
'countrycode',
'countryname', 'countryshortname', 'docty',
'envassesmentcategorycode',
'grantamt', 'ibrdcommamt', 'id', 'idacommamt', 'impagency',
'lendinginstr', 'lendinginstrtype', 'lendprojectcost',
'majorsector_percent', 'mjsector_namecode', 'mjtheme',
'mjtheme_namecode', 'mjthemecode', 'prodline',
'prodlinetext',
'productlinetype', 'project_abstract', 'project_name',
'projectdocs',
'projectfinancialtype', 'projectstatusdisplay',
'regionname', 'sector',
'sector1', 'sector2', 'sector3', 'sector4',
'sector_namecode',
'sectorcode', 'source', 'status', 'supplementprojectflg',
'theme1',
'theme_namecode', 'themecode', 'totalamt', 'totalcommamt',
'url'],
dtype='object')

```

```

<class 'pandas.core.frame.DataFrame'>
Int64Index: 500 entries, 0 to 499
Data columns (total 50 columns):
_id                500 non-null object
approvalfy         500 non-null int64
board_approval_month 500 non-null object
boardapprovaldate  500 non-null object
borrower           485 non-null object
closingdate        370 non-null object
country_namecode   500 non-null object
countrycode        500 non-null object
countryname        500 non-null object
countryshortname   500 non-null object
docty              446 non-null object
envassesmentcategorycode 430 non-null object
grantamt           500 non-null int64
ibrdcommamt        500 non-null int64
id                 500 non-null object
idacommamt         500 non-null int64
impagency          472 non-null object
lendinginstr       495 non-null object
lendinginstrtype   495 non-null object
lendprojectcost    500 non-null int64
majorsector_percent 500 non-null object
mjsector_namecode  500 non-null object
mjtheme           491 non-null object
mjtheme_namecode   500 non-null object
mjthemecode        500 non-null object
prodline           500 non-null object
prodlinetext       500 non-null object
productlinetype    500 non-null object
project_abstract   362 non-null object
project_name       500 non-null object
projectdocs        446 non-null object
projectfinancialtype 500 non-null object
projectstatusdisplay 500 non-null object
regionname         500 non-null object
sector             500 non-null object
sector1            500 non-null object
sector2            380 non-null object
sector3            265 non-null object
sector4            174 non-null object
sector_namecode    500 non-null object
sectorcode         500 non-null object
source             500 non-null object
status             500 non-null object
supplementprojectflg 498 non-null object

```

```

theme1                500 non-null object
theme_namecode         491 non-null object
themecode              491 non-null object
totalamt              500 non-null int64
totalcommamt          500 non-null int64
url                   500 non-null object
dtypes: int64(7), object(43)
memory usage: 199.2+ KB
None

```

=====TOP COUNTRIES BY NUMBERS OF PROJECTS=====

```

People's Republic of China    19
Republic of Indonesia         19
Socialist Republic of Vietnam 17
Republic of India             16
Republic of Yemen             13
Nepal                        12
People's Republic of Bangladesh 12
Kingdom of Morocco           12
Africa                       11
Republic of Mozambique        11
Federative Republic of Brazil 9
Name: countryname, dtype: int64

```

=====TOP 10 COUNTRIES BY NUMBERS OF PROJECTS WITH ONLY COUNTRIES IN LIST=====

```

People's Republic of China    19
Republic of Indonesia         19
Socialist Republic of Vietnam 17
Republic of India             16
Republic of Yemen             13
Kingdom of Morocco           12
People's Republic of Bangladesh 12
Nepal                        12
Republic of Mozambique        11
Federative Republic of Brazil 9
Name: countryname, dtype: int64

```

=====INVESTIGATIVE CODE TO VIEW THE MISSING THEME NAME FOR CODE 3=====

```

name                                     11
Urban development                       1
Trade and integration                   1

```

Social protection and risk management	1
Social dev/gender/inclusion	1
Rural development	1
Rule of law	1
Public sector governance	1
Human development	1
Financial and private sector development	1
Environment and natural resources management	1
Name: code, dtype: int64	

=====ALL ENTRIES ORGANIZED BY THEME=====

	code	name	id
458	1	Economic management	P130925
1235	1	Economic management	P131440
1230	1	Economic management	P129465
1229	1	Economic management	P129465
1218	1	Economic management	P130824
900	1	Economic management	P143819
648	1	Economic management	P129825
647	1	Economic management	P129825
1078	1	Economic management	P131234
1206	1	Economic management	P133255
1437	1		P130412
357	1	Economic management	P130459
363	1		P144030
1010	1	Economic management	P133706
784	1	Economic management	P110836
1024	1		P124114
88	1	Economic management	P132425
1045	1	Economic management	P133791
497	1	Economic management	P133663
1056	1	Economic management	P144633
1057	1	Economic management	P144633
1114	1		P131094
454	1	Economic management	P130925
453	1	Economic management	P128573
1257	1	Economic management	P133230
1260	1	Economic management	P133339
1212	1	Economic management	P121019
249	1	Economic management	P132948
841	1	Economic management	P122793
220	1	Economic management	P144917
...
669	9	Urban development	P127303
1303	9	Urban development	P130528
1347	9	Urban development	P131394

460	9		P117394
1342	9	Urban development	P130174
183	9	Urban development	P121917
200	9	Urban development	P125120
1318	9	Urban development	P130461
1290	9	Urban development	P118152
585	9	Urban development	P123729
737	9	Urban development	P117876
822	9	Urban development	P125022
369	9	Urban development	P126749
597	9	Urban development	P129713
53	9	Urban development	P145359
598	9	Urban development	P129713
356	9	Urban development	P127543
354	9	Urban development	P127543
962	9	Urban development	P132268
738	9	Urban development	P117876
512	9	Urban development	P127163
742	9	Urban development	P127079
1428	9	Urban development	P118916
333	9		P132154
1426	9	Urban development	P112901
1425	9	Urban development	P112901
447	9	Urban development	P126899
739	9	Urban development	P127079
341	9	Urban development	P144357
1102	9	Urban development	P130972

[1499 rows x 3 columns]

=====TO CONFIRM FILLED-IN ENTRIES FOR NAMES=====

	code	name	id
458	1	Economic management	P130925
1235	1	Economic management	P131440
1230	1	Economic management	P129465
1229	1	Economic management	P129465
1218	1	Economic management	P130824
900	1	Economic management	P143819
648	1	Economic management	P129825
647	1	Economic management	P129825
1078	1	Economic management	P131234
1206	1	Economic management	P133255
1437	1	Economic management	P130412
357	1	Economic management	P130459
363	1	Economic management	P144030
1010	1	Economic management	P133706

784	1	Economic management	P110836
1024	1	Economic management	P124114
88	1	Economic management	P132425
1045	1	Economic management	P133791
497	1	Economic management	P133663
1056	1	Economic management	P144633
1057	1	Economic management	P144633
1114	1	Economic management	P131094
454	1	Economic management	P130925
453	1	Economic management	P128573
1257	1	Economic management	P133230
1260	1	Economic management	P133339
1212	1	Economic management	P121019
249	1	Economic management	P132948
841	1	Economic management	P122793
220	1	Economic management	P144917
...
669	9	Urban development	P127303
1303	9	Urban development	P130528
1347	9	Urban development	P131394
460	9	Urban development	P117394
1342	9	Urban development	P130174
183	9	Urban development	P121917
200	9	Urban development	P125120
1318	9	Urban development	P130461
1290	9	Urban development	P118152
585	9	Urban development	P123729
737	9	Urban development	P117876
822	9	Urban development	P125022
369	9	Urban development	P126749
597	9	Urban development	P129713
53	9	Urban development	P145359
598	9	Urban development	P129713
356	9	Urban development	P127543
354	9	Urban development	P127543
962	9	Urban development	P132268
738	9	Urban development	P117876
512	9	Urban development	P127163
742	9	Urban development	P127079
1428	9	Urban development	P118916
333	9	Urban development	P132154
1426	9	Urban development	P112901
1425	9	Urban development	P112901
447	9	Urban development	P126899
739	9	Urban development	P127079
341	9	Urban development	P144357
1102	9	Urban development	P130972

[1499 rows x 3 columns]

=====CONFIRM MATCHING NUMBERS FOR CODES AND FILLED-IN NAMES=====

code	name	id
1	38	38
10	216	216
11	250	250
2	199	199
3	15	15
4	146	146
5	77	77
6	168	168
7	130	130
8	210	210
9	50	50

=====MAJOR PROJECT THEME TOP 10 COUNT=====

Environment and natural resources management	250
Rural development	216
Human development	210
Public sector governance	199
Social protection and risk management	168
Financial and private sector development	146
Social dev/gender/inclusion	130
Trade and integration	77
Urban development	50
Economic management	38

Name: name, dtype: int64

=====PROJECTS WITH THE GREATEST AMOUNTS OF FUNDS COMMITTED=====

\	totalcommamt	totalamt	grantamt	ibrdcommamt	idacommamt
129	1307800000	1307800000	0	1307800000	0
147	800000000	800000000	0	800000000	0
377	650000000	650000000	0	650000000	0
463	600000000	600000000	0	0	600000000
49	600000000	600000000	0	600000000	0
101	585400000	585400000	0	585400000	0
112	550000000	550000000	0	550000000	0
110	500000000	500000000	0	0	500000000
391	500000000	500000000	0	500000000	0
6	500000000	500000000	0	500000000	0

468	450000000	450000000	0	450000000	0
476	448900000	448900000	0	0	448900000
340	440000000	440000000	0	0	440000000
461	415000000	415000000	0	0	415000000
288	400000000	400000000	0	0	400000000

	countryname	approvalfy
129	Republic of Poland	2013
147	Republic of Turkey	2013
377	Republic of Indonesia	2013
463	Federal Democratic Republic of Ethiopia	2013
49	Republic of Colombia	2014
101	Arab Republic of Egypt	2013
112	Federative Republic of Brazil	2013
110	People's Republic of Bangladesh	2013
391	Republic of Tunisia	2013
6	Republic of India	2014
468	Ukraine	2013
476	Socialist Republic of Vietnam	2013
340	Republic of the Union of Myanmar	2013
461	Federal Democratic Republic of Ethiopia	2013
288	Islamic Republic of Pakistan	2013

=====PROJECTS WITH THE LEAST FUNDS COMMITTED=====

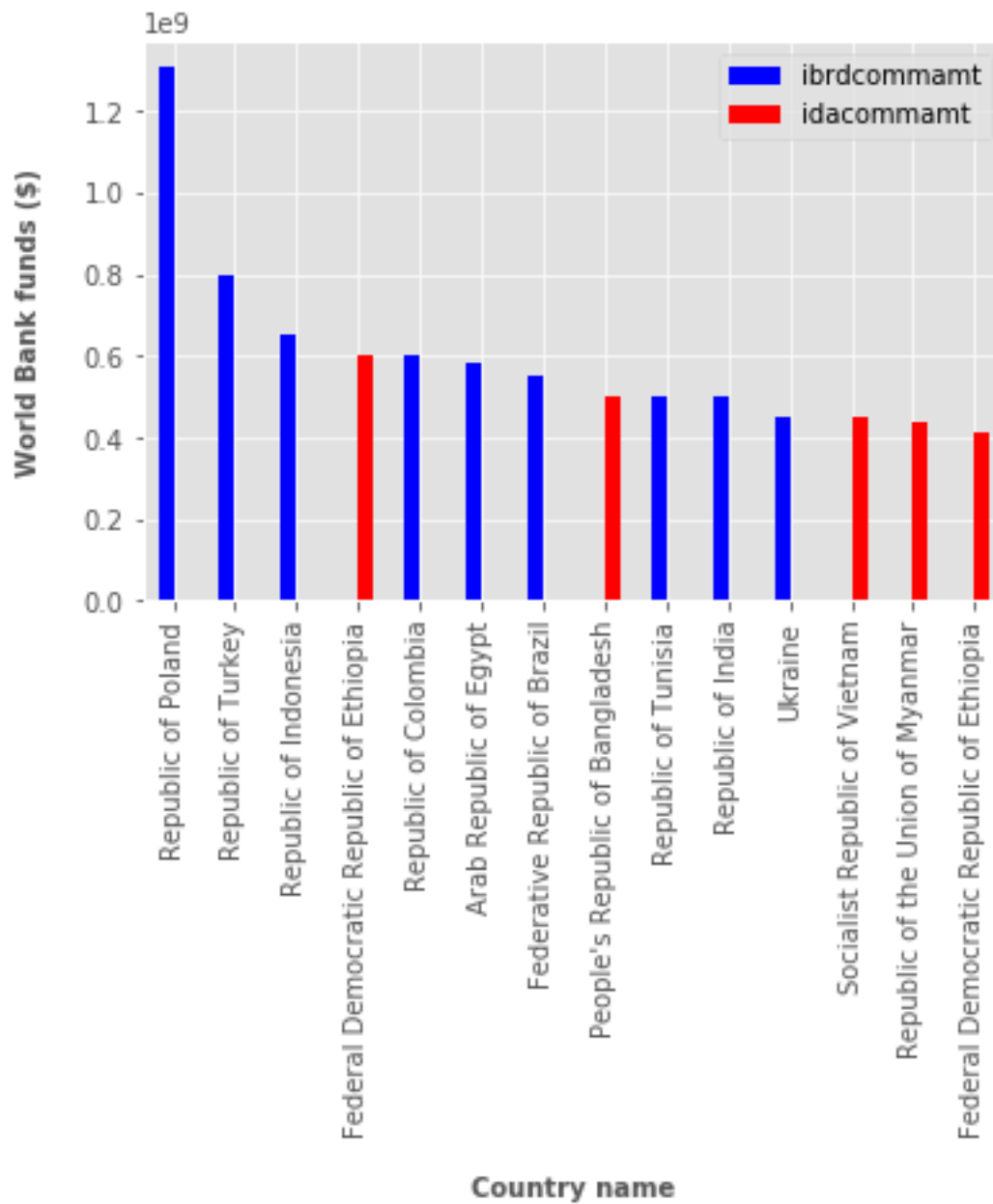
	totalcommamt	totalamt	grantamt	ibrdcommamt	idacommamt	\
209	210000	0	210000	0	0	
88	200000	0	200000	0	0	
325	200000	0	200000	0	0	
419	200000	0	200000	0	0	
78	200000	0	200000	0	0	
94	200000	0	200000	0	0	
301	200000	0	200000	0	0	
493	150000	0	150000	0	0	
473	150000	0	150000	0	0	
472	150000	0	150000	0	0	
43	100000	0	100000	0	0	
495	50000	0	50000	0	0	
427	30000	0	30000	0	0	
444	30000	0	30000	0	0	
368	30000	0	30000	0	0	

	countryname	approvalfy
209	Macedonia, former Yugoslav Republic of	2013
88	Republic of Tajikistan	2013
325	Republic of Croatia	2013
419	Republic of Maldives	2013

78	Republic of Liberia	2013
94	Republic of Armenia	2013
301	Republic of Yemen	2013
493	People's Republic of Bangladesh	2013
473	Republic of Albania	2013
472	Republic of Armenia	2013
43	Democratic Republic of Sao Tome and Prin	2014
495	Jamaica	2013
427	Kingdom of Morocco	2013
444	Kingdom of Morocco	2013
368	Arab Republic of Egypt	2013

==PROJECTS WITH THE GREATEST AMOUNTS OF FUNDS COMMITTED BY
RECIPIENT COUNTRY==

Highest-ranking amounts of World Bank funds (\$ US billions) per project by country



In [2]: