

Black Box testing does not care about the internal structure or the code, but simply tests if a valid output is produced for a valid input. The input for our java program is 2 .csv files. Thus our equivalence partitioning and boundary value analysis will be associated with the input space of 2 .csv files

Use Case: Reading 2 .csv files

Input Space: 2 .csv files

Equivalence partitioning: Valid Class and Invalid Class

1. Valid Class:

Examples of valid classes:

- a. Any 2 .csv files with a column header, same number of columns, same column type, same column order

Samplefile_1.csv						Samplefile_2.csv					
	A	B	C	D	E		A	B	C	D	E
1	Customer ID#	Account No.	Currency	Type	Balance	1	Customer ID#	Account No.	Currency	Type	Balance
2	ID1	BOS963211	USD	SAVINGS	962510	2	ID1	BOS492681	CAD	CURRENT	426505
3	ID2	BOS85992	AUD	CURRENT	989898	3	ID2	BOS760122	EUR	SAVINGS	87278
4	ID3	BOS656613	USD	CURRENT	595290	4	ID3	BOS473393	INR	CURRENT	476638
5	ID4	BOS14824	INR	SAVINGS	772578	5	ID4	BOS538154	HKD	SAVINGS	425024
6	ID5	BOS657505	CAD	SAVINGS	95538	6	ID5	BOS399125	USD	SAVINGS	523096
7	ID6	BOS66196	SGD	CURRENT	961629	7	ID6	BOS841596	GBP	SAVINGS	328986
8	ID7	BOS401497	CHF	CURRENT	873783	8	ID7	BOS389107	EUR	SAVINGS	988563
9	ID8	BOS928728	GBP	CURRENT	887322	9	ID8	BOS281858	GBP	CURRENT	113316

- b. Any 2 .csv files with no column header, same number of columns, same column type, same column order

Samplefile_1.csv						Samplefile_2.csv					
	A	B	C	D	E		A	B	C	D	E
1	ID1	BOS963211	USD	SAVINGS	962510	1	ID1	BOS492681	CAD	CURRENT	426505
2	ID2	BOS85992	AUD	CURRENT	989898	2	ID2	BOS760122	EUR	SAVINGS	87278
3	ID3	BOS656613	USD	CURRENT	595290	3	ID3	BOS473393	INR	CURRENT	476638
4	ID4	BOS14824	INR	SAVINGS	772578	4	ID4	BOS538154	HKD	SAVINGS	425024
5	ID5	BOS657505	CAD	SAVINGS	95538	5	ID5	BOS399125	USD	SAVINGS	523096
6	ID6	BOS66196	SGD	CURRENT	961629	6	ID6	BOS841596	GBP	SAVINGS	328986
7	ID7	BOS401497	CHF	CURRENT	873783	7	ID7	BOS389107	EUR	SAVINGS	988563
8	ID8	BOS928728	GBP	CURRENT	887322	8	ID8	BOS281858	GBP	CURRENT	113316
						9	ID9	BOS951739	HKD	SAVINGS	338559

Boundary Value & Middle Value of Valid Class

a. Column header:

Boundary Value 1 (Lower Boundary): 2 rows and 2 columns

Samplefile_1.csv		Samplefile_2.csv	
Customer ID#	Account No.	Customer ID#	Account No.
ID1	BOS963211	ID1	BOS492681

Boundary Value 2 (Upper Boundary): 1001 rows and 5 columns

(Example not shown since difficult to paste table with 1001 rows)

Middle Value: [2 <= number of rows <=1001 and 2 <= number of columns <= 5]

Example: 50 rows, 3 columns

Samplefile_1.csv				Samplefile_2.csv			
A				A			
1	Customer ID#	Account No.	Currency	1	Customer ID#	Account No.	Currency
2	ID1	BOS492681	CAD	2	ID1	BOS963211	USD
3	ID2	BOS760122	EUR	3	ID2	BOS85992	AUD
4	ID3	BOS473393	INR	4	ID3	BOS656613	USD
5	ID4	BOS538154	HKD	5	ID4	BOS14824	INR
6	ID5	BOS399125	USD	6	ID5	BOS657505	CAD
7	ID6	BOS841596	GBP	7	ID6	BOS66196	SGD
8	ID7	BOS389107	EUR	8	ID7	BOS401497	CHF
9	ID8	BOS281858	GBP	9	ID8	BOS928728	GBP
10	ID9	BOS951739	HKD	10	ID9	BOS296569	HKD
11	ID10	BOS6077810	USD	11	ID10	BOS4763010	EUR
12	ID11	BOS3981011	HKD	12	ID11	BOS673811	INR
13	ID12	BOS1237512	USD	13	ID12	BOS4824812	INR
14	ID13	BOS3211313	CHF	14	ID13	BOS627413	EUR
15	ID14	BOS5583914	EUR	15	ID14	BOS2320614	SGD
16	ID15	BOS6392515	CAD	16	ID15	BOS3343815	SEK
17	ID16	BOS5974716	USD	17	ID16	BOS6687816	HKD
18	ID17	BOS8486817	AUD	18	ID17	BOS8763417	EUR
19	ID18	BOS11818	HKD	19	ID18	BOS27018	SEK
20	ID19	BOS103019	USD	20	ID19	BOS1793019	USD
21	ID20	BOS9596820	SEK	21	ID20	BOS4858520	AUD
22	ID21	BOS6222521	HKD	22	ID21	BOS7780921	SGD
23	ID22	BOS7978422	INR	23	ID22	BOS9222022	SEK
24	ID23	BOS8184623	SGD	24	ID23	BOS2996223	AUD
25	ID24	BOS7713524	HKD	25	ID24	BOS7305924	INR
26	ID25	BOS7791725	INR	26	ID25	BOS5970425	CAD
27	ID26	BOS755826	CHF	27	ID26	BOS4615426	EUR
28	ID27	BOS8706127	HKD	28	ID27	BOS412527	USD
29	ID28	BOS9283928	CAD	29	ID28	BOS4478228	SGD
30	ID29	BOS6803829	SEK	30	ID29	BOS3351029	EUR
31	ID30	BOS8975830	SGD	31	ID30	BOS7971730	CHF
32	ID31	BOS7797231	USD	32	ID31	BOS3980631	SEK
33	ID32	BOS8475832	USD	33	ID32	BOS2411032	CHF
34	ID33	BOS4399433	CHF	34	ID33	BOS8745633	CHF
35	ID34	BOS1648734	SGD	35	ID34	BOS6735334	CHF
36	ID35	BOS2805735	EUR	36	ID35	BOS6493235	GBP
37	ID36	BOS2615336	SGD	37	ID36	BOS952736	USD
38	ID37	BOS6228937	USD	38	ID37	BOS45494037	EUR
39	ID38	BOS7536938	GBP	39	ID38	BOS9321638	AUD
40	ID39	BOS5298939	SEK	40	ID39	BOS7293539	HKD
41	ID40	BOS7778040	SGD	41	ID40	BOS7085240	INR
42	ID41	BOS3625141	SEK	42	ID41	BOS9590341	INR
43	ID42	BOS3049842	AUD	43	ID42	BOS7414742	SEK
44	ID43	BOS7530543	CAD	44	ID43	BOS8855943	CHF
45	ID44	BOS3520744	HKD	45	ID44	BOS3387844	CHF
46	ID45	BOS8140345	GBP	46	ID45	BOS1573545	HKD
47	ID46	BOS1211846	AUD	47	ID46	BOS3620946	INR
48	ID47	BOS4780847	CHF	48	ID47	BOS3467947	USD
49	ID48	BOS6714248	AUD	49	ID48	BOS3229448	GBP
50	ID49	BOS154849	AUD	50	ID49	BOS3852449	USD

- b. No column header:

Boundary Value 1 (Lower Boundary): 1 row and 2 columns

Samplefile_1.csv		Samplefile_2.csv	
ID1	BOS963211	ID1	BOS492681

Boundary Value 2 (Upper Boundary): 1000 rows and 5 columns

(Example not shown since difficult to paste table with 1000 rows)

Middle Value: 1 <= number of rows <=1001 and 2 <= number of columns <= 5

Example: 49 rows, 3 columns

Samplefile_1.csv				Samplefile_2.csv			
	A	B	C		A	B	C
1	ID1	BOS963211	USD	1	ID1	BOS492681	CAD
2	ID2	BOS85992	AUD	2	ID2	BOS760122	EUR
3	ID3	BOS656613	USD	3	ID3	BOS473393	INR
4	ID4	BOS14824	INR	4	ID4	BOS538154	HKD
5	ID5	BOS657505	CAD	5	ID5	BOS399125	USD
6	ID6	BOS66196	SGD	6	ID6	BOS841596	GBP
7	ID7	BOS401497	CHF	7	ID7	BOS389107	EUR
8	ID8	BOS928728	GBP	8	ID8	BOS281858	GBP
9	ID9	BOS296569	HKD	9	ID9	BOS951739	HKD
10	ID10	BOS4763010	EUR	10	ID10	BOS6077810	USD
11	ID11	BOS673811	INR	11	ID11	BOS3981011	HKD
12	ID12	BOS4824812	INR	12	ID12	BOS1237512	USD
13	ID13	BOS627413	EUR	13	ID13	BOS3211313	CHF
14	ID14	BOS2320614	SGD	14	ID14	BOS5583914	EUR
15	ID15	BOS3343815	SEK	15	ID15	BOS6392515	CAD
16	ID16	BOS6687816	HKD	16	ID16	BOS5974716	USD
17	ID17	BOS8763417	EUR	17	ID17	BOS8486817	AUD
18	ID18	BOS27018	SEK	18	ID18	BOS11818	HKD
19	ID19	BOS1793019	USD	19	ID19	BOS103019	USD
20	ID20	BOS4858520	AUD	20	ID20	BOS9596820	SEK
21	ID21	BOS7780921	SGD	21	ID21	BOS6222521	HKD
22	ID22	BOS9222022	SEK	22	ID22	BOS7978422	INR
23	ID23	BOS2996223	AUD	23	ID23	BOS8184623	SGD
24	ID24	BOS7305924	INR	24	ID24	BOS7713524	HKD
25	ID25	BOS5970425	CAD	25	ID25	BOS7791725	INR
26	ID26	BOS4615426	EUR	26	ID26	BOS755826	CHF
27	ID27	BOS412527	USD	27	ID27	BOS8706127	HKD
28	ID28	BOS4478228	SGD	28	ID28	BOS9283928	CAD
29	ID29	BOS3351029	EUR	29	ID29	BOS6803829	SEK
30	ID30	BOS7971730	CHF	30	ID30	BOS8975830	SGD
31	ID31	BOS3980631	SEK	31	ID31	BOS7797231	USD
32	ID32	BOS2411032	CHF	32	ID32	BOS8475832	USD
33	ID33	BOS8745633	CHF	33	ID33	BOS4399433	CHF
34	ID34	BOS6735334	CHF	34	ID34	BOS1648734	SGD
35	ID35	BOS6493235	GBP	35	ID35	BOS2805735	EUR
36	ID36	BOS952736	USD	36	ID36	BOS2615336	SGD
37	ID37	BOS5494037	EUR	37	ID37	BOS6228937	USD
38	ID38	BOS9321638	AUD	38	ID38	BOS7536938	GBP
39	ID39	BOS7293539	HKD	39	ID39	BOS5298939	SEK
40	ID40	BOS7065240	INR	40	ID40	BOS7778040	SGD
41	ID41	BOS9590341	INR	41	ID41	BOS3625141	SEK
42	ID42	BOS7414742	SEK	42	ID42	BOS3049842	AUD
43	ID43	BOS8855943	CHF	43	ID43	BOS7530543	CAD
44	ID44	BOS3387844	CHF	44	ID44	BOS3520744	HKD
45	ID45	BOS1573545	HKD	45	ID45	BOS8140345	GBP
46	ID46	BOS3620946	INR	46	ID46	BOS1211846	AUD
47	ID47	BOS3467947	USD	47	ID47	BOS4780847	CHF
48	ID48	BOS3229448	GBP	48	ID48	BOS6714248	AUD
49	ID49	BOS3852449	USD				

2. Invalid Class:

Examples of Invalid classes:

- 1 or both files not in .csv format
- Empty files (0 rows, 0 columns)
- 1 .csv file has a column header, other .csv file does not have column header

Samplefile_1.csv						Samplefile_2.csv					
	A	B	C	D	E		A	B	C	D	E
1	Customer ID#	Account No.	Currency	Type	Balance	1	ID1	BOS492681	CAD	CURRENT	426505
2	ID1	BOS963211	USD	SAVINGS	962510	2	ID2	BOS760122	EUR	SAVINGS	87278
3	ID2	BOS85992	AUD	CURRENT	989898	3	ID3	BOS473393	INR	CURRENT	476638
4	ID3	BOS656613	USD	CURRENT	595290	4	ID4	BOS538154	HKD	SAVINGS	425024
5	ID4	BOS14824	INR	SAVINGS	772578	5	ID5	BOS399125	USD	SAVINGS	523096
6	ID5	BOS657505	CAD	SAVINGS	95538	6	ID6	BOS841596	GBP	SAVINGS	328986
7	ID6	BOS66196	SGD	CURRENT	961629	7	ID7	BOS389107	EUR	SAVINGS	988563
8	ID7	BOS401497	CHF	CURRENT	873783	8	ID8	BOS281858	GBP	CURRENT	113316
9	ID8	BOS928728	GBP	CURRENT	887322	9	ID9	BOS951739	HKD	SAVINGS	338559

- Number of columns is different

Samplefile_1.csv						Samplefile_2.csv					
	A	B	C	D	E		A	B	C		
1	ID1	BOS963211	USD	SAVINGS	962510	1	ID1	BOS492681	CAD		
2	ID2	BOS85992	AUD	CURRENT	989898	2	ID2	BOS760122	EUR		
3	ID3	BOS656613	USD	CURRENT	595290	3	ID3	BOS473393	INR		
4	ID4	BOS14824	INR	SAVINGS	772578	4	ID4	BOS538154	HKD		
5	ID5	BOS657505	CAD	SAVINGS	95538	5	ID5	BOS399125	USD		
6	ID6	BOS66196	SGD	CURRENT	961629	6	ID6	BOS841596	GBP		
7	ID7	BOS401497	CHF	CURRENT	873783	7	ID7	BOS389107	EUR		
8	ID8	BOS928728	GBP	CURRENT	887322	8	ID8	BOS281858	GBP		
						9	ID9	BOS951739	HKD		

- Order of columns is different

Samplefile_1.csv						Samplefile_2.csv					
Customer ID#	Balance	Currency	Type	Account No.		Customer ID#	Account No.	Currency	Type	Balance	
ID1	962510	USD	SAVINGS	BOS963211		ID1	BOS492681	CAD	CURRENT	426505	
ID2	989898	AUD	CURRENT	BOS85992		ID2	BOS760122	EUR	SAVINGS	87278	
ID3	595290	USD	CURRENT	BOS656613		ID3	BOS473393	INR	CURRENT	476638	
ID4	772578	INR	SAVINGS	BOS14824		ID4	BOS538154	HKD	SAVINGS	425024	
ID5	95538	CAD	SAVINGS	BOS657505		ID5	BOS399125	USD	SAVINGS	523096	
ID6	961629	SGD	CURRENT	BOS66196		ID6	BOS841596	GBP	SAVINGS	328986	
ID7	873783	CHF	CURRENT	BOS401497		ID7	BOS389107	EUR	SAVINGS	988563	
ID8	887322	GBP	CURRENT	BOS928728		ID8	BOS281858	GBP	CURRENT	113316	

Boundary Value & Middle Value of Invalid Class

Boundary Value 1 column, n rows. A file with <1 column will be empty and a file with >1 column will become a valid input.

Samplefile_1.csv	Samplefile_2.csv				
<table><tr><td>Customer ID#</td></tr><tr><td>ID1</td></tr></table>	Customer ID#	ID1	<table><tr><td>Customer ID#</td></tr><tr><td>ID1</td></tr></table>	Customer ID#	ID1
Customer ID#					
ID1					
Customer ID#					
ID1					

Middle Value: 50 rows, 8 columns. Any more than 5 columns is invalid class.