Lab Three

- Variables:
    1. int nights (1 <= nights <= 14)
    2. int guestAge
    3. boolean isArkansasResident
    4. boolean hasVeteranDiscount
- Text highlighted in red are duplicate tests that can be eliminated.

Equivalence Partitions TCIs:

TCI	Parameter	Equivalance Partition	Test Case
EP1	nights	1-14	TC1.1
EP2	nights	< 1	TC1.4
EP3	nights	> 14	TC1.5
EP4	guestAge	0-12	TC1.1
EP5	guestAge	13-64	TC1.2
EP6	guestAge	65 - Integer.MAX	TC1.3
EP7	isArkansasResident	True	TC1.2
EP8	isArkansasResident	False	TC1.1
EP9	hasVeteranDiscount	True	TC1.3
EP10	hasVeteranDiscount	False	TC1.1

Equivalence Partitions Test Cases:

Test Case ID	TCI Covered	nights	guestAge	isArkansasResident	hasVeteranDiscount
TC1.1	EP1, EP4, EP8, EP10	5	8	False	False
TC1.2	EP1, EP5,	3	30	True	False

	EP7, EP10				
TC1.3	EP1, EP6, EP8, EP9	2	70	False	True
TC1.4	EP2	0	30	False	False
TC1.5	EP3	15	30	False	False

Boundary Values TCIs:

TCI	Parameter	Boundary Value	Test Case
BV1*	nights	Integer.MIN	TC2.8
BV2*	nights	0	TC2.9
BV3	nights	1	TC2.1
BV4	nights	14	TC2.2
BV5*	nights	15	TC2.10
BV6*	nights	Integer.MAX	TC2.11
BV7	guestAge	0	TC2.3
BV8	guestAge	12	TC2.4
BV9	guestAge	13	TC2.5
BV10	guestAge	64	TC2.6
BV11	guestAge	65	TC2.7
BV12	guestAge	Integer.MAX	TC2.12
BV13	isArkansasResident	True	TC2.1
BV14	isArkansasResident	False	TC2.2
BV15	hasVeteranDiscount	True	TC2.1
BV16	hasVeteranDiscount	False	TC2.2

Test Case ID	TCI Covered	nights	guestAge	isArkansas Resident	hasVeteran Discount	Expected Result
TC2.1	BV3, BV13, BV15	1 (Min)	30	True	True	$36.00
TC2.2	BV4, BV14, BV16	14 (Max)	30	False	False	$700.00
TC2.3	BV7	5	0 (Min_Child)	False	False	$125.00
TC2.4	BV8	5	12 (Max_Child)	False	False	$125.00
TC2.5	BV9	5	13 (Min_Adult)	False	False	$250.00
TC2.6	BV10	5	64 (Max_Adult)	False	False	$250.00
TC2.7	BV11	5	65 (Min_Senior)	False	False	$200.00
TC2.8	BV12	5	Integer.MAX	False	False	$200.00
TC2.9	BV1*	Integer. MIN	30	False	False	ERROR
TC2.10	BV2*	0	30	False	False	ERROR
TC2.11	BV5*	15	30	False	False	ERROR
TC2.12	BV6*	Integer. MAX	30	False	False	ERROR

Decision Table TCIs:

Causes	DT1	DT2	DT3	DT 4
isArkansasResident	F	T	F	T
hasVeteranDiscount	F	F	T	T

Effects				
stayPrice == Base	**T**	F	F	F
stayPrice == Base - $10	F	**T**	F	F
stayPrice == Base * 0.9	F	F	**T**	F
stayPrice == (Base - 10) * 0.9	F	F	F	**T**

Decision Table Test Cases:

Test Case ID	TCI Covered	nights	guestAge	isArkansas Resident	hasVeteran Discount	Expected Result
TC3.1	DT1	2	30	False	False	$100.00
TC3.2	DT2	2	30	True	False	$90.00
TC3.3	DT3	2	30	False	True	$90.00
TC3.4	DT4	2	30	True	True	$81.00

Eliminate Duplicate Tests:

- TC1.1 - Redundant because its 50% discount logic is already verified by boundary test TC2.3 (age 0)
- TC1.2 & TC1.3 (Partitions): Redundant because the discount logic is identical to TC3.2 (Resident only) and TC3.3 (Veteran only).
- TC1.4 & TC1.5 - Redundant because TC2.10 (0 nights) and TC2.11 (15 nights) target the boundary values.
- TC3.1 - Redundant because this baseline scenario is done in many other test cases.

Tests after eliminating duplicated tests (highlighted in red above) in test_cases.csv:

nights	guestAge	isArkansasResident	hasVeteranDiscount	expectedResult	isError

1	30	TRUE	TRUE	36	FALSE
14	30	FALSE	FALSE	700	FALSE
5	0	FALSE	FALSE	125	FALSE
5	12	FALSE	FALSE	125	FALSE
5	13	FALSE	FALSE	250	FALSE
5	64	FALSE	FALSE	250	FALSE
5	65	FALSE	FALSE	200	FALSE
5	2147483647	FALSE	FALSE	200	FALSE
2	30	TRUE	FALSE	90	FALSE
2	30	FALSE	TRUE	90	FALSE
2	30	TRUE	TRUE	81	FALSE
-2147483648	30	FALSE	FALSE	0	TRUE
0	30	FALSE	FALSE	0	TRUE
15	30	FALSE	FALSE	0	TRUE
2147483647	30	FALSE	FALSE	0	TRUE