

Equivalence Classes - Function1			
Variable	Criteria	Valid Classes	Invalid Classes
Credit_Card_Number	Luhn's Algorithm	ECV1 Follows Luhn's Algorithm	ECNV1, 16 Digits but no Luhn's Algorithm
Credit_Card_Number	Data Type	ECV2 Valid Card Integer	ECNV2, Not a number ECNV3, more than 16 digits ECNV4, Less than 16 digits BWN1 15 Digits BWN2 17 Digits
Credit_Card_Number	Length	ECV3 Valid Card 16 Digits	
ID_Card	DNI Algorithm	ECV4 follows DNI algorithm	ECNV5, Letter and numbers not correctly matched ECNV6, more than 9 characters ECNV7 less than 9 characters BWN3 10 characters BWN4 8 characters
ID_Card	Length	ECV5 9 Characters	ECNV8 Not 8 digits followed by one letter
ID_Card	Letter After 8 Digits	ECV6 8 digits followed by a letter	
ID_Card	Data Type	ECV7 String	ECNV9 Not a String
Name_Surname	Length	ECV8 Between 10 and 50 Characters BWN1 10 Characters BWN2 11 Characters BWN3 40 Characters BWN4 50 Characters	ECNV10 less than 10 characters ECNV11 more than 50 characters BWN5 9 characters BWN6 51 characters
Name_Surname	Data Type	ECV9 String	ECNV12 not a string
Name_Surname	Spacing	ECV10 at least two strings with a space	ECNV13 String with no spaces
Phone_Number	Data Type	ECV11 Integer	ECNV14 not an Integer ECNV15 less than 9 digits ECNV16 greater than 9 digits BWN7 8 digits BWN8 10 digits
Phone_Number	Length	ECV12 9 digits	
Room_Type	Data Type	ECV13 String	ECNV17 not a string
Room_Type	Valid Value	ECV14 value "single" ECV15 value "double" ECV16 value "suite"	ECNV18 not one of the three types
Arrival	Date Format	ECV17 String with format "DDMM/YYYY"	ECNV19 incorrect format
Arrival	Date Type	ECV18 String	ECNV20 not a string
Arrival	After Current Date	ECV19 Date after/on Current Date	ECNV21 before the current date
Arrival	Valid Date	ECV20 Date exists on calendar	ECNV22 date does not exist on calendar
Num_Days	Data Type	ECV21 Integer ECV22 Integer between 1 and 10 BWN9 1 BWN9 2 BWN7 9 BWN8 10	ECNV23 not an integer ECNV24 below 1 ECNV25 above 10 BWN5 0 BWN10 11
Num_Days	Number Value		

Test Cases - Function 1																
Input/Output	Field	Valid/Invalid	Test ID	Description	Equivalence Class Tested	Credit_Card_Number	ID_Card	Name_Surname	Phone_Number	Room_Type	Arrival	Num_Days	Expected Output			
Input	Credit_Card_Number	Valid	TC1	Valid Credit Card	ECV1, ECV2, ECV3	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	01/07/2025	5	TRUE			
Input	Credit_Card_Number	Invalid	TC2	Invalid Credit Card Number	ECNV1	4.92032E+15	12345678Z	Dedan Lowney		123456789 Single	01/08/2025	5	Exception ("Invalid Credit Card")			
Input	Credit_Card_Number	Invalid	TC3	Invalid Credit Card Number	ECNV2	abcdegh	12345678Z	Dedan Lowney		123456789 Single	01/09/2025	5	Exception ("Invalid Credit Card")			
Input	Credit_Card_Number	Invalid	TC4	Invalid Credit Card Number	ECNV3, BNV2	45020194301234578	12345678Z	Dedan Lowney		123456789 Single	01/10/2025	5	Exception ("Invalid Credit Card")			
Input	Credit_Card_Number	Invalid	TC5	Invalid Credit Card Number	ECNV4, BNV1	450201943012345	12345678Z	Dedan Lowney		123456789 Single	01/11/2025	5	Exception ("Invalid Credit Card")			
Input	ID_Card	Valid	TC6	Valid ID Card	ECV4, ECV5, ECV6, ECV7	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	01/12/2025	5	TRUE			
Input	ID_Card	Invalid	TC7	Invalid ID Card	ECNV5	4502019430123457	12345678A	Dedan Lowney		123456789 Single	01/13/2025	5	Exception ("Invalid ID Card")			
Input	ID_Card	Invalid	TC8	Invalid ID Card	ECNV6, BNV3	4502019430123457	12345678BA	Dedan Lowney		123456789 Single	01/14/2025	5	Exception ("Invalid ID Card")			
Input	ID_Card	Invalid	TC9	Invalid ID Card	ECNV7, BNV4	1234567A	12345678A	Dedan Lowney		123456789 Single	01/15/2025	5	Exception ("Invalid ID Card")			
Input	ID_Card	Invalid	TC10	Invalid ID Card	ECNV8	212345678	12345678Z	Dedan Lowney		123456789 Single	01/16/2025	5	Exception ("Invalid ID Card")			
Input	ID_Card	Invalid	TC11	Invalid ID Card	ECNV9	4502019430123457	12345678 9	Dedan Lowney		123456789 Single	01/17/2025	5	Exception ("Invalid ID Card")			
Input	Name_Surname	Valid	TC12	Valid Name_Surname	ECV8, ECV9, ECV10	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	01/18/2025	5	TRUE			
Input	Name_Surname	Valid	TC13	Valid Name_Surname	BNV1	4502019430123457	12345678Z	John Smith		123456789 Single	01/19/2025	5	TRUE			
Input	Name_Surname	Valid	TC14	Valid Name_Surname	BNV2	4502019430123457	12345678Z	Jonny Smith		123456789 Single	01/20/2025	5	TRUE			
Input	Name_Surname	Valid	TC16	Valid Name_Surname	BNV3	4502019430123457	12345678Z	Alexandra Elizabeth Catherine Stephanie Jonathan		123456789 Single	01/21/2025	5	TRUE			
Input	Name_Surname	Invalid	TC15	Invalid Name_Surname	BNV4	4502019430123457	12345678Z	Alexandra Elizabeth Catherine Stephanie Jonathans		123456789 Single	01/22/2025	5	Exception ("Invalid Name")			
Input	Name_Surname	Invalid	TC17	Invalid Name_Surname	ECNV11, BNV5	4502019430123457	12345678Z	Alexandra Elizabeth Catherine Stephanie Jonathans		123456789 Single	01/23/2025	5	Exception ("Invalid Name")			
Input	Name_Surname	Invalid	TC18	Invalid Name_Surname	ECNV10, BNV6	4502019430123457	12345678Z	Jon Smith		123456789 Single	01/24/2025	5	Exception ("Invalid Name")			
Input	Name_Surname	Invalid	TC19	Invalid Name_Surname	ECNV12	4502019430123457	12345678Z		1234	123456789 Single	01/25/2025	5	Exception ("Invalid Name")			
Input	Name_Surname	Invalid	TC20	Invalid Name_Surname	ECNV13	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	01/26/2025	5	Exception ("Invalid Name")			
Input	Phone_Number	Valid	TC21	Valid Phone Number	ECV11, ECV12	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	01/27/2025	5	TRUE			
Input	Phone_Number	Invalid	TC24	Invalid Phone Number	ECNV14	4502019430123457	12345678Z	Dedan Lowney	helooooo	Single	01/28/2025	5	Exception ("Invalid Phone Number")			
Input	Phone_Number	Invalid	TC22	Invalid Phone Number	ECNV15, BNV7	4502019430123457	12345678Z	Dedan Lowney		12345678 9 Single	01/29/2025	5	Exception ("Invalid Phone Number")			
Input	Phone_Number	Invalid	TC23	Invalid Phone Number	ECNV16, BNV7	4502019430123457	12345678Z	Dedan Lowney		1234567891 Single	01/30/2025	5	Exception ("Invalid Phone Number")			
Input	Room_Type	Valid	TC25	Valid Room Type	ECV13, ECV14	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	01/31/2025	5	TRUE			
Input	Room_Type	Valid	TC26	Valid Room Type	ECV15	4502019430123457	12345678Z	Dedan Lowney		123456789 Double	02/01/2025	5	TRUE			
Input	Room_Type	Valid	TC27	Valid Room Type	ECV16	4502019430123457	12345678Z	Dedan Lowney		123456789 Suite	02/02/2025	5	TRUE			
Input	Room_Type	Invalid	TC28	Invalid Room Type	ECNV18	4502019430123457	12345678Z	Dedan Lowney		123456789 Hello	02/03/2025	5	Exception ("Invalid Room Type")			
Input	Room_Type	Invalid	TC29	Invalid Room Type	ECNV17	4502019430123457	12345678Z	Dedan Lowney		123456789 1234	02/04/2025	5	Exception ("Invalid Room Type")			
Input	Arrival	Valid	TC30	Valid Date	ECV17, ECV18, ECV19, ECV20	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	02/05/2025	5	TRUE			
Input	Arrival	Invalid	TC31	Invalid Date	ECNV19	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	2052/2025	5	Exception ("Invalid Arrival Date")			
Input	Arrival	Invalid	TC32	Invalid Date	ECNV20	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	1234	5	Exception ("Invalid Arrival Date")			
Input	Arrival	Invalid	TC33	Invalid Date	ECNV21	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	01/01/1999	5	Exception ("Invalid Arrival Date")			
Input	Arrival	Invalid	TC34	Invalid Date	ECNV22	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	03/58/2028	5	Exception ("Invalid Arrival Date")			
Input	Num_Days	Valid	TC35	Valid Number of Days	ECV21, ECV21	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	02/06/2025	5	TRUE			
Input	Num_Days	Invalid	TC36	Invalid Number of Days	ECNV23	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	02/06/2025 a	5	Exception ("Invalid Number of Days")			
Input	Num_Days	Invalid	TC37	Invalid Number of Days	ECNV24, BNV9	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	02/07/2025	0	Exception ("Invalid Number of Days")			
Input	Num_Days	Valid	TC38	Valid Number of Days	ECV22, BNV5	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	02/08/2025	1	TRUE			
Input	Num_Days	Valid	TC39	Valid Number of Days	ECV22, BNV6	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	02/09/2025	2	TRUE			
Input	Num_Days	Valid	TC40	Valid Number of Days	ECV22, BNV7	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	02/10/2025	9	TRUE			
Input	Num_Days	Valid	TC41	Valid Number of Days	ECV22, BNV8	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	02/11/2025	10	TRUE			
Input	Num_Days	Invalid	TC42	Invalid Number of Days	ECNV24, BNV10	4502019430123457	12345678Z	Dedan Lowney		123456789 Single	02/12/2025	11	Exception ("Invalid Number of Days")			

#	Route	ID Test	Description
1	1-1-1	TC1	Stay file doesn't exist
2	1-2-3-10	TC2	No entries in stay files
3	1-2-3-4-3-10	TC3	One entry which does not contain the room key
4	1-2-3-4-5-6-12-13-14-15-16-17-18-7-20-8-21-22-23-24-26-27-9	TC4	Valid case
5	1-2-3-4-5-6-12-28	TC5	Room key is not a string
6	1-2-3-4-5-6-12-13-28	TC6	Room key is the incorrect length
7	1-2-3-4-5-6-12-13-14-28	TC7	Room key is not an alphanumeric string
8	1-2-3-4-5-6-12-13-14-15-28	TC8	Room key is not all lowercase lowercase
9	1-2-3-4-5-6-12-13-14-15-16-17-19	TC9	Room key is not correct given the corresponding data
10	1-2-3-4-5-6-12-13-14-15-16-17-18-7-20-8-21-22-23-24-25	TC10	Valid Case if checkin/join does not already exist
11	1-2-3-4-5-6-12-13-14-15-16-17-18-7-20-8-21-22-23-24-25-30	TC11	Error if room key already exists in file when adding checkout
12	1-2-3-4-5-6-12-13-14-15-16-17-18-7-20-8-21-22-23-24-25-24-26-27-9	TC12	Valid case where add to join to check out file must reiterate through loop