

DIT636 / DAT560 - Partial Solution for Exercise 2

This solution omits some potential representative values/choices but can help if you get stuck on this exercise.

Parameter: FlightA

Choice: Flight code:

- malformed (string that does not follow stated formatting convention) [error]
- empty string [error]
- null [error]
- valid

Choice: Originating airport code:

- malformed (not a three-letter string) [error]
- not in database [error]
- valid code

Choice: Scheduled departure time:

- malformed (not following formatting convention) [error]
- out of legal range (valid format, not a valid time) [error]
- valid time

Choice: Destination airport (transfer airport - where connection takes place):

- malformed (not a three-letter string) [error]
- not in database [error]
- valid code
- valid code, same as originating airport code [error]

Choice: Scheduled arrival time (tA):

- malformed (not following formatting convention) [error]
- out of legal range (valid format, not a valid time) [error]
- valid time
- valid time, before scheduled departure time [error] [if scheduled arrival time = valid time]

Parameter: FlightB

Choice: Flight code:

- malformed (string that does not follow stated formatting convention) [error]
- empty string [error]
- null [error]
- valid

Choice: Originating airport code:

- malformed (not a three-letter string) [error]
- not in database [error]

- valid code, differs from destination airport of flight a [error] [if flight a's destination airport code = valid code]
- valid code, same as destination of flight a [if flight a's destination airport code = valid code]

Choice: Scheduled departure time:

- malformed (not following formatting convention) [error]
- out of legal range (valid format, not a valid time) [error]
- valid time, before arriving flight time (t_A) of flight a [error] [if scheduled arrival time of flight a = valid time]
- between t_A and $t_A + \text{minimum domestic connection time (DCT)}$ [error]
 - [if scheduled arrival time of flight a = valid time]
 - [if destination airport country of flight a = arrival airport country of flight a]
- equal to $t_A + \text{DCT}$ [single]
 - [if scheduled arrival time of flight a = valid time]
 - [if destination airport country of flight a = arrival airport country of flight a]
- greater than $t_A + \text{DCT}$
 - [if scheduled arrival time of flight a = valid time]
 - [if destination airport country of flight a = arrival airport country of flight a]
- between t_A and $t_A + \text{minimum international connection time (ICT)}$ [error]
 - [if scheduled arrival time of flight a = valid time]
 - [if destination airport country of flight a != arrival airport country of flight a]
- equal to $t_A + \text{ICT}$ [single]
 - [if scheduled arrival time of flight a = valid time]
 - [if destination airport country of flight a != arrival airport country of flight a]
- greater than $t_A + \text{ICT}$
 - [if scheduled arrival time of flight a = valid time]
 - [if destination airport country of flight a != arrival airport country of flight a]

Choice: Destination airport code:

- malformed (not a three-letter string) [error]
- not in database [error]
- valid code
- valid code, same as originating airport code [error]

Choice: Scheduled arrival time:

- malformed (not following formatting convention) [error]
- out of legal range (not a valid time) [error]
- valid time
- valid time, before scheduled departure time [error] [if scheduled arrival time = valid time]

Parameter: Database record

This parameter refers to the database record corresponding to the transfer airport.

Choice: Airport country:

- null [error]
- empty string [error]
- valid country

Choice: Minimum domestic connection time:

- null [error]
- < 0 [error]
- 0 [single]
- > 0

Choice: Minimum international connection time:

- null [error]
- < 0 [error]
- 0 [single]
- > 0
- < domestic connection time [error] [if domestic connection time ≥ 0]