

Contract CO1:           searchConnection

Operation contract:    searchConnection(departure\_city, arrival city, departure time, arrival time, train type, DOO, FC ticket, SC ticket)

Precondition:           departure\_city, arrival city, departure time, arrival time, train type, DOO, FC ticket, SC ticket either exist or are left empty.  
                          The CSV file is loaded.

Postcondition:         A List<Route> instance results was created (instance creation)  
                          The matched route objects from the CSV file are added to the results.  
(association formed)

Contract CO2:           sortResults

Operation contract:    sortResults(type)

Cross References:      Use Case: Search Connection

Precondition:           A connection search has been done.  
                          A List<Route> instance results have been created, and matched route objects have been added.  
                          The type by which it will be sorted exists.

Postcondition:         The results list is associated with a Comparator based on the sorting type. (association formed)  
                          The results list is sorted using the Comparator. (attribute modification)

Contract CO3:           registerClients

Operation contract:    registerClients(firstName,lastName,age,id)

Cross References:      Use Case: Book a Trip

Precondition:           firstName, lastName, age and id are valid.

Postcondition:         A client instance c was created.(instance creation)  
                          c.firstName was set to firstName.(attribute modification)  
                          c.lastName was set to lastName. (attribute modification)  
                          c.age was set to age.(attribute modification)

c.id was set to id.(attribute modification)  
clientCount was incremented by 1.(attribute modification)  
c.tickets was set to an empty list.(attribute modification)  
c was added to the list of clients which is in  
ClientRepository.(association formed)  
Confirmation message is sent to user.

Contract CO4: chosenConnection

Operation contract: chosenConnection(connection)

Cross References: Use Case: Book a Trip

Precondition: A valid connection exists.  
A client instance c has been created.

Postcondition: A ticket instance t has been created.(instance creation)  
t was associated with the client c.(association formed)  
t was added to c.tickets.(association formed)  
t was associated with the connection.(association formed)

Contract CO5: viewTrips

Operation contract: viewTrips(lastName, id)

Precondition: A client with lastName and id exists.

Postcondition: the list of tickets associated with the client is displayed.