

As part of the BILL project, you will have to read in student records and users from a set of databases (functionally, these are actually flat files in the JSON format). We have included samples in this ZIP, and these tables will listing the fields that may appear, and examples of the type of data that might appear in the those fields.

You will need to implement Java classes to contain and represent this data.

Student Record Mapping:

Key	Value Type	
student	Student class, contains fields:	
	Key	Value Type
	id	string (ex: ggay)
	firstName	string (ex: Greg)
	lastName	string (ex: Gay)
	phone	string, three integers, dash, three integers, dash, four integers (ex: 999-999-9999)
	emailAddress	string (ex: mhunt@mailbox.sc.edu)
	addressStreet	string (ex: 221B Baker St.)
	addressCity	string (ex: Pittsburgh)
	addressState	string (ex: SC)
	addressPostalCode	String (ex: 29205)

college	One of: {ARTS_AND_SCIENCES, ENGINEERING_AND_COMPUTING, GRADUATE_SCHOOL}	
termBegan	Term class, contains fields:	
	Key	Value Type
	semester	One of: {FALL, SPRING, SUMMER}
	year	four digit number (ex: 2010)
capstoneEnrolled	Term class, contains fields:	
	Key	Value Type
	semester	One of: {FALL, SPRING, SUMMER}
	year	four digit number (ex: 2010)
	Allowed to be null (not enrolled in Capstone)	
classStatus	One of: {FRESHMAN, SOPHOMORE, JUNIOR, SENIOR, MASTERS, PHD, GRADUATED}	
gradAssistant	boolean	
international	boolean	
internationalStatus	One of: {SHORT_TERM, SPONSORED, NONE}	
resident	boolean	
activeDuty	boolean	

veteran	boolean										
freeTuition	boolean										
scholarship	One of: {WOODROW, DEPARTMENTAL, GENERAL, ATHLETIC, SIMS, NONE}										
studyAbroad	One of: {REGULAR, COHORT, NONE}										
nationalStudentExchange	boolean										
outsideInsurance	boolean										
courses	<p>List, containing 0 or more courses, each with the following fields:</p> <table> <tr> <th>Key</th><th>Value Type</th></tr> <tr> <td>name</td><td>string (ex: Machine Learning)</td></tr> <tr> <td>id</td><td>string (ex: csce740)</td></tr> <tr> <td>numCredits</td><td>integer</td></tr> <tr> <td>online</td><td>boolean</td></tr> </table>	Key	Value Type	name	string (ex: Machine Learning)	id	string (ex: csce740)	numCredits	integer	online	boolean
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transactions	<p>List containing 0 or more transaction. Each transaction has the following fields:</p> <table> <tr> <th>Key</th><th>Value Type</th></tr> <tr> <td>type</td><td>One of: {PAYMENT, CHARGE}</td></tr> <tr> <td>transactionDate</td><td>Instance of Date class, containing:</td></tr> </table>	Key	Value Type	type	One of: {PAYMENT, CHARGE}	transactionDate	Instance of Date class, containing:				
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		month	two digit number (1-12)							
		day	number (1-31)							
	year	four digit number (ex: 2010)								
amount	double									
note	String, intended to explain the transaction									

You will also need to produce bills in a similar format. An example has been included, but here is a guide to the fields that should appear.

Bill Mapping:

Key	Value Type	
student	Student class, contains fields:	
	Key	Value Type
	id	string (ex: ggay)
	firstName	string (ex: Greg)
	lastName	string (ex: Gay)
	phone	string, three integers, dash, three integers, dash, four integers (ex: 999-999-9999)
	emailAddress	string (ex: mhunt@mailbox.sc.edu)
	addressStreet	string (ex: 221B Baker St.)
	addressCity	string (ex: Pittsburgh)
	addressState	string (ex: SC)
	addressPostalCode	String (ex: 29205)
college	One of: {ARTS_AND_SCIENCES, ENGINEERING_AND_COMPUTING, GRADUATE_SCHOOL}	
classStatus	One of: {FRESHMAN, SOPHOMORE, JUNIOR, SENIOR, MASTERS, PHD, GRADUATED}	

balance	double																		
transactions	<p>List containing 0 or more transaction. Each transaction has the following fields:</p> <table> <tr> <th>Key</th><th>Value Type</th></tr> <tr> <td>type</td><td>One of: {PAYMENT, CHARGE}</td></tr> <tr> <td>transactionDate</td><td> <p>Instance of Date class, containing:</p> <table> <tr> <th>Key</th><th>Value Type</th></tr> <tr> <td>month</td><td>two digit number (1-12)</td></tr> <tr> <td>day</td><td>number (1-31)</td></tr> <tr> <td>year</td><td>four digit number (ex: 2010)</td></tr> </table> </td></tr> <tr> <td>amount</td><td>double</td></tr> <tr> <td>note</td><td>String, intended to explain the transaction</td></tr> </table>	Key	Value Type	type	One of: {PAYMENT, CHARGE}	transactionDate	<p>Instance of Date class, containing:</p> <table> <tr> <th>Key</th><th>Value Type</th></tr> <tr> <td>month</td><td>two digit number (1-12)</td></tr> <tr> <td>day</td><td>number (1-31)</td></tr> <tr> <td>year</td><td>four digit number (ex: 2010)</td></tr> </table>	Key	Value Type	month	two digit number (1-12)	day	number (1-31)	year	four digit number (ex: 2010)	amount	double	note	String, intended to explain the transaction
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year	four digit number (ex: 2010)																		
amount	double																		
note	String, intended to explain the transaction																		

One additional data set must be loaded into your system. This is a list of users.

User Mappings:

Key	Value Type
id	string of letters and numbers (ex: gayxx067)
firstName	string (ex: Greg)
lastName	string (ex: Gay)
role	String, one of {STUDENT, ADMIN}
college	String, one of {ARTS_AND_SCIENCES, ENGINEERING_AND_COMPUTING, GRADUATE_SCHOOL}