What is Possible in BRIDGES?

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The University of North Carolina at Charlotte

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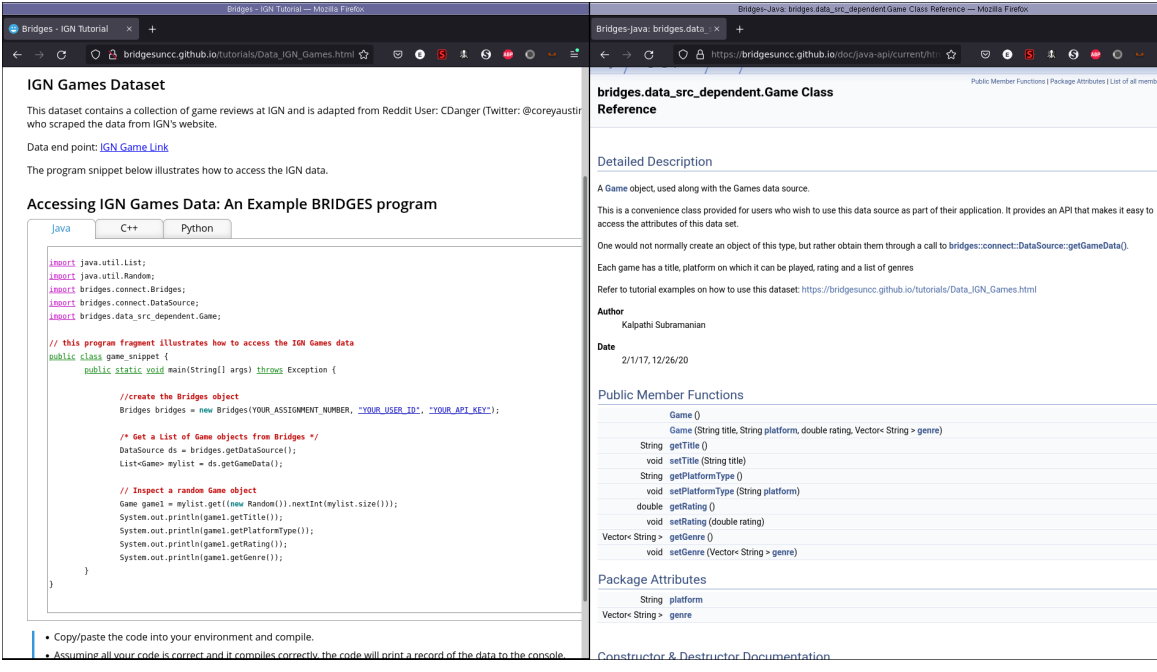
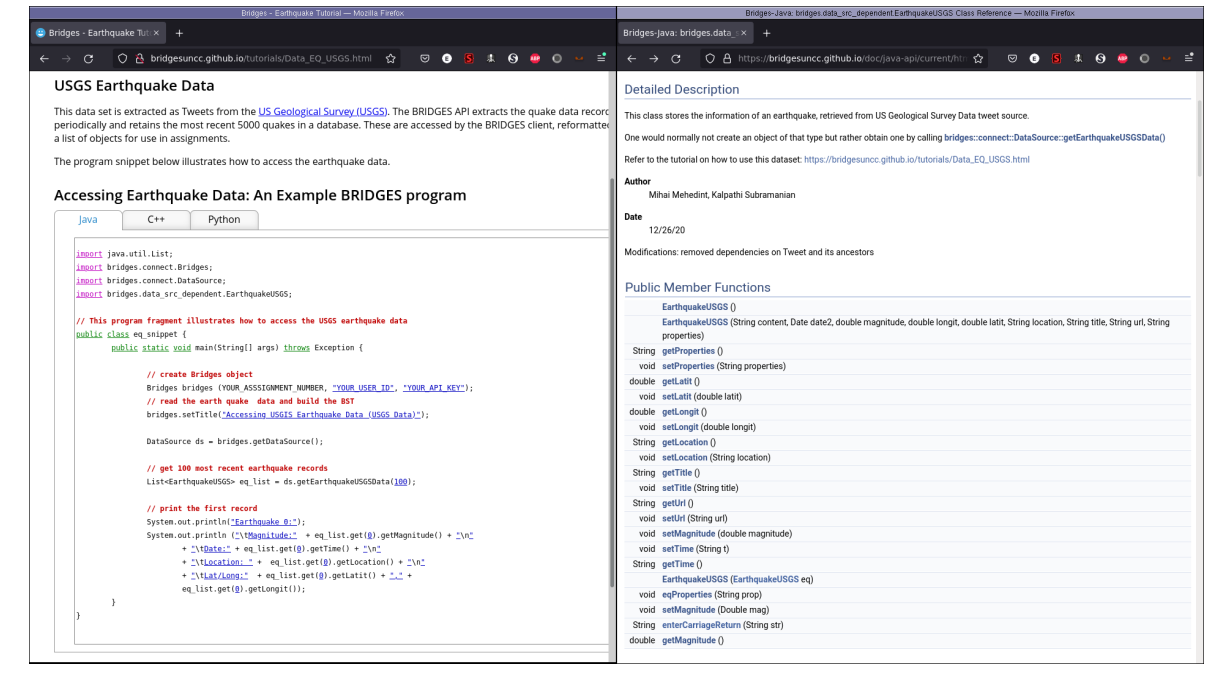
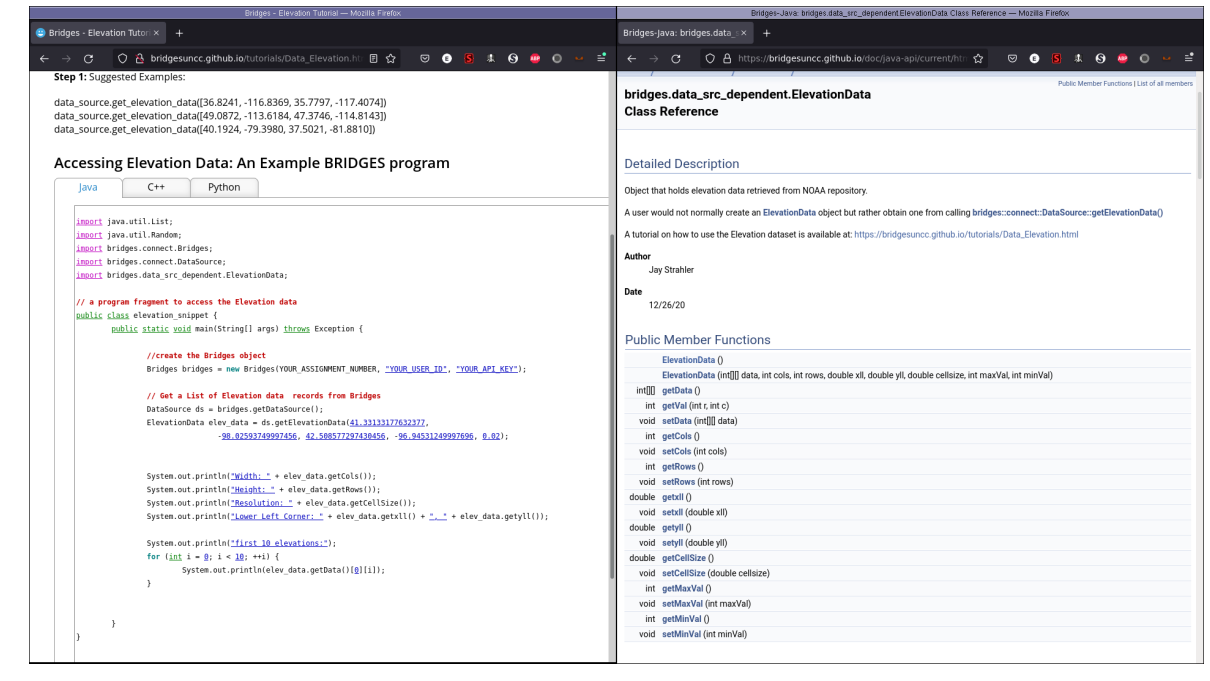
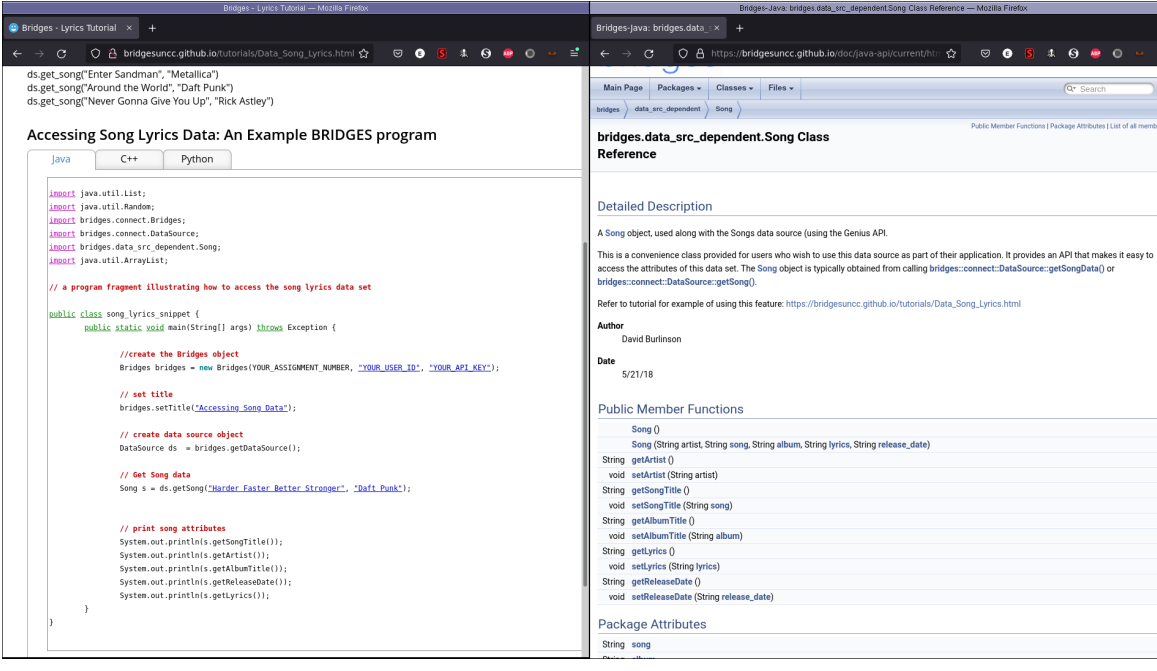
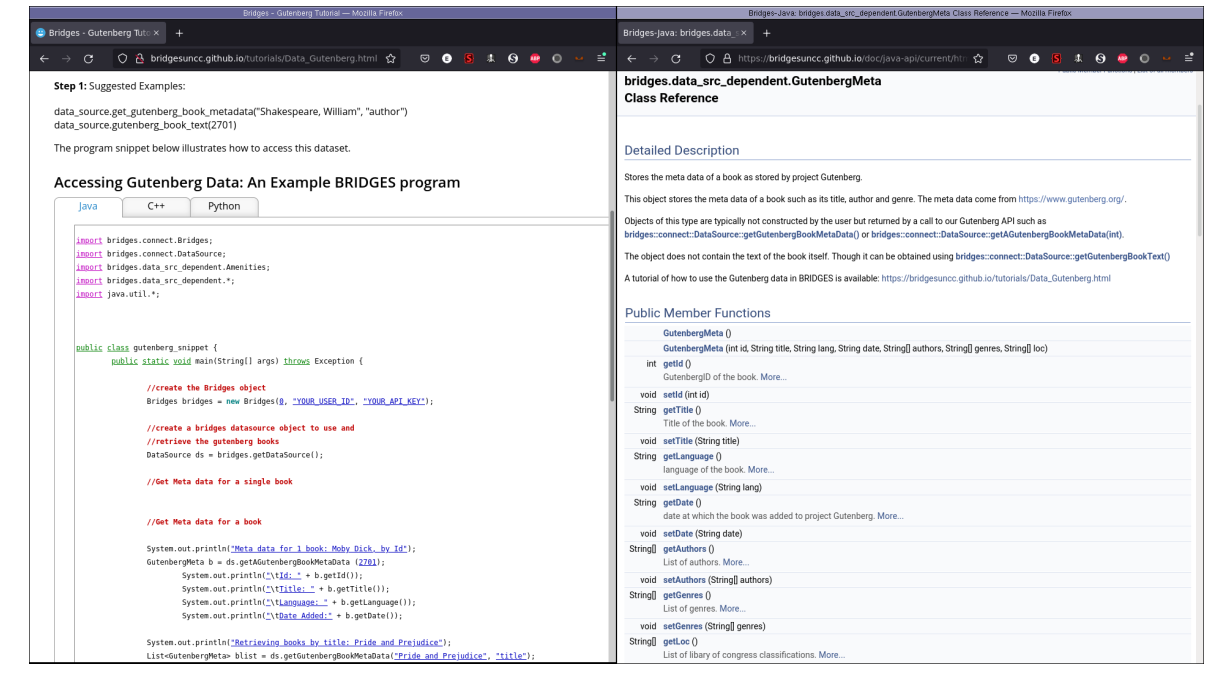
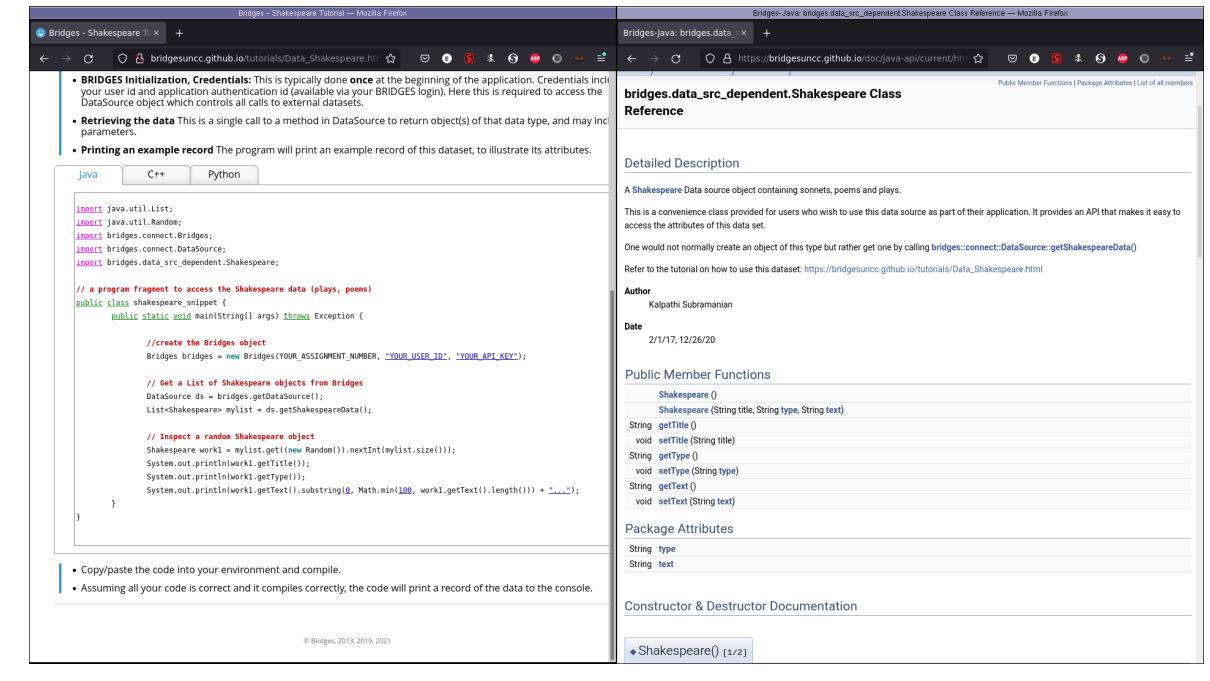

Bridges - IGN Tutorial — Mozilla Firefox
Bridges - IGN Tutorial
bridgesuncc.github.io/tutorials/Data_IGN_Games.html
IGN Games Dataset
This dataset contains a collection of game reviews at IGN and is adapted from Reddit User: CDanger (Twitter: @coreyaustin
who scraped the data from IGN's website.
Data end point: IGN Game Link
The program snippet below illustrates how to access the IGN data.
Accessing IGN Games Data: An Example BRIDGES program
Java
C++
Python
import java.util.List;
import java.util.Random;
import bridges.connect.Bridges;
import bridges.connect.DataSource;
import bridges.data_src_dependent.Game;
// this program fragment illustrates how to access the IGN Games data
public class game_snippet {
public static void main(String[] args) throws Exception {
//create the Bridges object
Bridges bridges = new Bridges(YOUR_ASSIGNMENT_NUMBER, "YOUR_USER_ID", "YOUR_API_KEY");
/* Get a List of Game objects from Bridges */
DataSource ds = bridges.getDataSource();
List<Game> mylist = ds.getGameData();
// Inspect a random Game object
Game game1 = mylist.get((new Random()).nextInt(mylist.size()));
System.out.println(game1.getTitle());
System.out.println(game1.getPlatformType());
System.out.println(game1.getRating());
System.out.println(game1.getGenre());
}
}
• Copy/paste the code into your environment and compile.
• Assuming all your code is correct and it compiles correctly, the code will print a record of the data to the console.
Bridges-Java: bridges.data_src_dependent.Game Class Reference — Mozilla Firefox
Bridges-Java: bridges.data_
https://bridgesuncc.github.io/doc/java-api/current/ht
Public Member Functions | Package Attributes | List of all members
bridges.data_src_dependent.Game Class Reference
Detailed Description
A Game object, used along with the Games data source.
This is a convenience class provided for users who wish to use this data source as part of their application. It provides an API that makes it easy to access the attributes of this data set.
One would not normally create an object of this type, but rather obtain them through a call to bridges::connect::DataSource::getGameData().
Each game has a title, platform on which it can be played, rating and a list of genres
Refer to tutorial examples on how to use this dataset: https://bridgesuncc.github.io/tutorials/Data_IGN_Games.html
Author
Kalpathi Subramanian
Date
2/1/17, 12/26/20
Public Member Functions
Game ()
Game (String title, String platform, double rating, Vector< String > genre)
String getTitle ()
void setTitle (String title)
String getPlatformType ()
void setPlatformType (String platform)
double getRating ()
void setRating (double rating)
Vector< String > getGenre ()
void setGenre (Vector< String > genre)
Package Attributes
String platform
Vector< String > genre
Constructor & Destructor Documentation

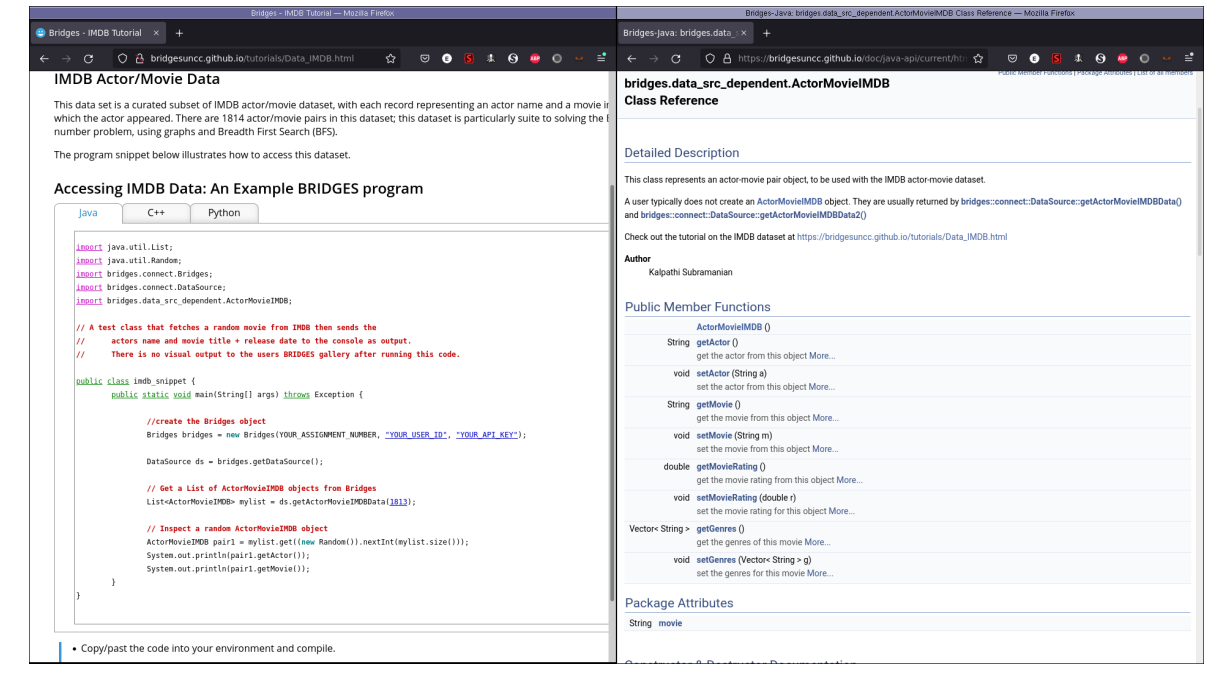

Bridges - Earthquake Tutorial — Mozilla Firefox
Bridges - Earthquake Tut
bridgesuncc.github.io/tutorials/Data_EQ_USGS.html
USGS Earthquake Data
This data set is extracted as Tweets from the US Geological Survey (USGS). The BRIDGES API extracts the quake data record
periodically and retains the most recent 5000 quakes in a database. These are accessed by the BRIDGES client, reformatte
a list of objects for use in assignments.
The program snippet below illustrates how to access the earthquake data.
Accessing Earthquake Data: An Example BRIDGES program
Java
C++
Python
import java.util.List;
import bridges.connect.Bridges;
import bridges.connect.DataSource;
import bridges.data_src_dependent.EarthquakeUSGS;
// This program fragment illustrates how to access the USGS earthquake data
public class eq_snippet {
public static void main(String[] args) throws Exception {
// create Bridges object
Bridges bridges (YOUR_ASSSIGNMENT_NUMBER, "YOUR_USER_ID", "YOUR_API_KEY");
// read the earth quake data and build the BST
bridges.setTitle("Accessing USGIS Earthquake Data (USGS Data)");
DataSource ds = bridges.getDataSource();
// get 100 most recent earthquake records
List<EarthquakeUSGS> eq_list = ds.getEarthquakeUSGSData(100);
// print the first record
System.out.println("Earthquake 0:");
System.out.println ("\tMagnitude:" + eq_list.get(0).getMagnitude() + "\n"
+ "\tDate:" + eq_list.get(0).getTime() + "\n"
+ "\tLocation: " + eq_list.get(0).getLocation() + "\n"
+ "\tLat/Long:" + eq_list.get(0).getLatit() + "," +
eq_list.get(0).getLongit());
}
}
Bridges-Java: bridges.data_src_dependent.EarthquakeUSGS Class Reference — Mozilla Firefox
Bridges-Java: bridges.data_
https://bridgesuncc.github.io/doc/java-api/current/ht
Detailed Description
This class stores the information of an earthquake, retrieved from US Geological Survey Data tweet source.
One would normally not create an object of that type but rather obtain one by calling bridges::connect::DataSource::getEarthquakeUSGSData()
Refer to the tutorial on how to use this dataset: https://bridgesuncc.github.io/tutorials/Data_EQ_USGS.html
Author
Mihai Mehedint, Kalpathi Subramanian
Date
12/26/20
Modifications: removed dependencies on Tweet and its ancestors
Public Member Functions
EarthquakeUSGS ()
EarthquakeUSGS (String content, Date date2, double magnitude, double longit, double latit, String location, String title, String url, String properties)
String getProperties ()
void setProperties (String properties)
double getLatit ()
void setLatit (double latit)
double getLongit ()
void setLongit (double longit)
String getLocation ()
void setLocation (String location)
String getTitle ()
void setTitle (String title)
String getUrl ()
void setUrl (String url)
void setMagnitude (double magnitude)
void setTime (String t)
String getTime ()
EarthquakeUSGS (EarthquakeUSGS eq)
void eqProperties (String prop)
void setMagnitude (Double mag)
String enterCarriageReturn (String str)
double getMagnitude ()


Bridges - Elevation Tutorial — Mozilla Firefox
Bridges - Elevation Tutor
bridgesuncc.github.io/tutorials/Data_Elevation.ht
Step 1: Suggested Examples:
data_source.get_elevation_data([36.8241, -116.8369, 35.7797, -117.4074])
data_source.get_elevation_data([49.0872, -113.6184, 47.3746, -114.8143])
data_source.get_elevation_data([40.1924, -79.3980, 37.5021, -81.8810])
Accessing Elevation Data: An Example BRIDGES program
Java
C++
Python
import java.util.List;
import java.util.Random;
import bridges.connect.Bridges;
import bridges.connect.DataSource;
import bridges.data_src_dependent.ElevationData;
// a program fragment to access the Elevation data
public class elevation_snippet {
public static void main(String[] args) throws Exception {
//create the Bridges object
Bridges bridges = new Bridges(YOUR_ASSIGNMENT_NUMBER, "YOUR_USER_ID", "YOUR_API_KEY");
// Get a List of Elevation data records from Bridges
DataSource ds = bridges.getDataSource();
ElevationData elev_data = ds.getElevationData(41.33133177632377,
-98.02593749997456, 42.508577297430456, -96.94531249997696, 0.02);
System.out.println("Width: " + elev_data.getCols());
System.out.println("Height: " + elev_data.getRows());
System.out.println("Resolution: " + elev_data.getCellSize());
System.out.println("Lower Left Corner: " + elev_data.getxll() + ", " + elev_data.getyll());
System.out.println("first 10 elevations:");
for (int i = 0; i < 10; ++i) {
System.out.println(elev_data.getData()[0][i]);
}
}
}
Bridges-Java: bridges.data_src_dependent.ElevationData Class Reference — Mozilla Firefox
Bridges-Java: bridges.data_
https://bridgesuncc.github.io/doc/java-api/current/ht
Public Member Functions | List of all members
bridges.data_src_dependent.ElevationData
Class Reference
Detailed Description
Object that holds elevation data retrieved from NOAA repository.
A user would not normally create an ElevationData object but rather obtain one from calling bridges::connect::DataSource::getElevationData()
A tutorial on how to use the Elevation dataset is available at: https://bridgesuncc.github.io/tutorials/Data_Elevation.html
Author
Jay Strahler
Date
12/26/20
Public Member Functions
ElevationData ()
ElevationData (int[][] data, int cols, int rows, double xll, double yll, double cellsize, int maxVal, int minVal)
int[][] getData ()
int getVal (int r, int c)
void setData (int[][] data)
int getCols ()
void setCols (int cols)
int getRows ()
void setRows (int rows)
double getxll ()
void setxll (double xll)
double getyll ()
void setyll (double yll)
double getCellSize ()
void setCellSize (double cellsize)
int getMaxVal ()
void setMaxVal (int maxVal)
int getMinVal ()
void setMinVal (int minVal)


Bridges - Lyrics Tutorial — Mozilla Firefox
Bridges - Lyrics Tutorial
bridgesuncc.github.io/tutorials/Data_Song_Lyrics.html
ds.get_song("Enter Sandman", "Metallica")
ds.get_song("Around the World", "Daft Punk")
ds.get_song("Never Gonna Give You Up", "Rick Astley")
Accessing Song Lyrics Data: An Example BRIDGES program
Java
C++
Python
import java.util.List;
import java.util.Random;
import bridges.connect.Bridges;
import bridges.connect.DataSource;
import bridges.data_src_dependent.Song;
import java.util.ArrayList;
// a program fragment illustrating how to access the song lyrics data set
public class song_lyrics_snippet {
public static void main(String[] args) throws Exception {
//create the Bridges object
Bridges bridges = new Bridges(YOUR_ASSIGNMENT_NUMBER, "YOUR_USER_ID", "YOUR_API_KEY");
// set title
bridges.setTitle("Accessing Song Data");
// create data source object
DataSource ds = bridges.getDataSource();
// Get Song data
Song s = ds.getSong("Harder Faster Better Stronger", "Daft Punk");
// print song attributes
System.out.println(s.getSongTitle());
System.out.println(s.getArtist());
System.out.println(s.getAlbumTitle());
System.out.println(s.getReleaseDate());
System.out.println(s.getLyrics());
}
}
Bridges-Java: bridges.data_src_dependent.Song Class Reference — Mozilla Firefox
Bridges-Java: bridges.data_
https://bridgesuncc.github.io/doc/java-api/current/ht
Main Page
Packages
Classes
Files
Search
bridges
data_src_dependent
Song
Public Member Functions | Package Attributes | List of all members
bridges.data_src_dependent.Song Class Reference
Detailed Description
A Song object, used along with the Songs data source (using the Genius API.
This is a convenience class provided for users who wish to use this data source as part of their application. It provides an API that makes it easy to access the attributes of this data set. The Song object is typically obtained from calling bridges::connect::DataSource::getSongData() or bridges::connect::DataSource::getSong().
Refer to tutorial for example of using this feature: https://bridgesuncc.github.io/tutorials/Data_Song_Lyrics.html
Author
David Burlinson
Date
5/21/18
Public Member Functions
Song ()
Song (String artist, String song, String album, String lyrics, String release_date)
String getArtist ()
void setArtist (String artist)
String getSongTitle ()
void setSongTitle (String song)
String getAlbumTitle ()
void setAlbumTitle (String album)
String getLyrics ()
void setLyrics (String lyrics)
String getReleaseDate ()
void setReleaseDate (String release_date)
Package Attributes
String song


Bridges - Gutenberg Tutorial — Mozilla Firefox
Bridges - Gutenberg Tuto
bridgesuncc.github.io/tutorials/Data_Gutenberg.html
Bridges-Java: bridges.data_src_dependent.GutenbergMeta Class Reference — Mozilla Firefox
Bridges-java: bridges.data_
https://bridgesuncc.github.io/doc/java-api/current/ht
Step 1: Suggested Examples:
data_source.get_gutenberg_book_metadata("Shakespeare, William", "author")
data_source.gutenberg_book_text(2701)
The program snippet below illustrates how to access this dataset.
Accessing Gutenberg Data: An Example BRIDGES program
Java
C++
Python
import bridges.connect.Bridges;
import bridges.connect.DataSource;
import bridges.data_src_dependent.Amenities;
import bridges.data_src_dependent.*;
import java.util.*;
public class gutenberg_snippet {
public static void main(String[] args) throws Exception {
//create the Bridges object
Bridges bridges = new Bridges(0, "YOUR_USER_ID", "YOUR_API_KEY");
//create a bridges datasource object to use and
//retrieve the gutenberg books
DataSource ds = bridges.getDataSource();
//Get Meta data for a single book
//Get Meta data for a book
System.out.println("Meta data for 1 book: Moby Dick, by Id");
GutenbergMeta b = ds.getAGutenbergBookMetaData (2701);
System.out.println("\tId: " + b.getId());
System.out.println("\tTitle: " + b.getTitle());
System.out.println("\tLanguage: " + b.getLanguage());
System.out.println("\tDate Added:" + b.getDate());
System.out.println("Retrieving books by title: Pride and Prejudice");
List<GutenbergMeta> blist = ds.getGutenbergBookMetaData("Pride and Prejudice", "title");
bridges.data_src_dependent.GutenbergMeta
Class Reference
Detailed Description
Stores the meta data of a book as stored by project Gutenberg.
This object stores the meta data of a book such as its title, author and genre. The meta data come from https://www.gutenberg.org/.
Objects of this type are typically not constructed by the user but returned by a call to our Gutenberg API such as bridges::connect::DataSource::getGutenbergBookMetaData() or bridges::connect::DataSource::getAGutenbergBookMetaData(int).
The object does not contain the text of the book itself. Though it can be obtained using bridges::connect::DataSource::getGutenbergBookText()
A tutorial of how to use the Gutenberg data in BRIDGES is available: https://bridgesuncc.github.io/tutorials/Data_Gutenberg.html
Public Member Functions
GutenbergMeta ()
GutenbergMeta (int id, String title, String lang, String date, String[] authors, String[] genres, String[] loc)
int getId ()
GutenbergID of the book. More...
void setId (int id)
String getTitle ()
Title of the book. More...
void setTitle (String title)
String getLanguage ()
language of the book. More...
void setLanguage (String lang)
String getDate ()
date at which the book was added to project Gutenberg. More...
void setDate (String date)
String[] getAuthors ()
List of authors. More...
void setAuthors (String[] authors)
String[] getGenres ()
List of genres. More...
void setGenres (String[] genres)
String[] getLoc ()
List of libary of congress classifications. More...


Bridges - Shakespeare Tutorial — Mozilla Firefox
Bridges - Shakespeare Tu
bridgesuncc.github.io/tutorials/Data_Shakespeare.ht
BRIDGES Initialization, Credentials: This is typically done once at the beginning of the application. Credentials incl
your user id and application authentication id (available via your BRIDGES login). Here this is required to access the
DataSource object which controls all calls to external datasets.
Retrieving the data This is a single call to a method in DataSource to return object(s) of that data type, and may inc
parameters.
Printing an example record The program will print an example record of this dataset, to illustrate its attributes.
Java
C++
Python
import java.util.List;
import java.util.Random;
import bridges.connect.Bridges;
import bridges.connect.DataSource;
import bridges.data_src_dependent.Shakespeare;
// a program fragment to access the Shakespeare data (plays, poems)
public class shakespeare_snippet {
public static void main(String[] args) throws Exception {
//create the Bridges object
Bridges bridges = new Bridges(YOUR_ASSIGNMENT_NUMBER, "YOUR_USER_ID", "YOUR_API_KEY");
// Get a List of Shakespeare objects from Bridges
DataSource ds = bridges.getDataSource();
List<Shakespeare> mylist = ds.getShakespeareData();
// Inspect a random Shakespeare object
Shakespeare work1 = mylist.get((new Random()).nextInt(mylist.size()));
System.out.println(work1.getTitle());
System.out.println(work1.getType());
System.out.println(work1.getText().substring(0, Math.min(100, work1.getText().length())) + "...");
}
}
Copy/paste the code into your environment and compile.
Assuming all your code is correct and it compiles correctly, the code will print a record of the data to the console.
© Bridges, 2013, 2019, 2021
Bridges-Java: bridges.data_src_dependent.Shakespeare Class Reference — Mozilla Firefox
Bridges-Java: bridges.data_
https://bridgesuncc.github.io/doc/java-api/current/ht
Public Member Functions | Package Attributes | List of all members
bridges.data_src_dependent.Shakespeare Class Reference
Detailed Description
A Shakespeare Data source object containing sonnets, poems and plays.
This is a convenience class provided for users who wish to use this data source as part of their application. It provides an API that makes it easy to access the attributes of this data set.
One would not normally create an object of this type but rather get one by calling bridges::connect::DataSource::getShakespeareData()
Refer to the tutorial on how to use this dataset: https://bridgesuncc.github.io/tutorials/Data_Shakespeare.html
Author
Kalpathi Subramanian
Date
2/1/17, 12/26/20
Public Member Functions
Shakespeare ()
Shakespeare (String title, String type, String text)
String getTitle ()
void setTitle (String title)
String getType ()
void setType (String type)
String getText ()
void setText (String text)
Package Attributes
String type
String text
Constructor & Destructor Documentation
◆Shakespeare() [1/2]



Bridges - IMDB Tutorial — Mozilla Firefox

Bridges - IMDB Tutorial

bridgesuncc.github.io/tutorials/Data_IMDB.html

IMDB Actor/Movie Data

This data set is a curated subset of IMDB actor/movie dataset, with each record representing an actor name and a movie i
which the actor appeared. There are 1814 actor/movie pairs in this dataset; this dataset is particularly suite to solving the
number problem, using graphs and Breadth First Search (BFS).

The program snippet below illustrates how to access this dataset.

Accessing IMDB Data: An Example BRIDGES program

Java | C++ | Python

```
import java.util.List;
import java.util.Random;
import bridges.connect.Bridges;
import bridges.connect.DataSource;
import bridges.data_src_dependent.ActorMovieIMDB;

// A test class that fetches a random movie from IMDB then sends the
//      actors name and movie title + release date to the console as output.
//      There is no visual output to the users BRIDGES gallery after running this code.

public class imdb_snippet {
        public static void main(String[] args) throws Exception {

                //create the Bridges object
                Bridges bridges = new Bridges(YOUR_ASSIGNMENT_NUMBER, "YOUR_USER_ID", "YOUR_API_KEY");

                DataSource ds = bridges.getDataSource();

                // Get a List of ActorMovieIMDB objects from Bridges
                List<ActorMovieIMDB> mylist = ds.getActorMovieIMDBData(1813);

                // Inspect a random ActorMovieIMDB object
                ActorMovieIMDB pair1 = mylist.get((new Random()).nextInt(mylist.size()));
                System.out.println(pair1.getActor());
                System.out.println(pair1.getMovie());
        }
}
```

- Copy/past the code into your environment and compile.

Bridges-Java: bridges.data_src_dependent.ActorMovieIMDB Class Reference — Mozilla Firefox

Bridges-java: bridges.data_

https://bridgesuncc.github.io/doc/java-api/current/ht

Public Member Functions | Package Attributes | List of all members

bridges.data_src_dependent.ActorMovieIMDB
Class Reference

Detailed Description

This class represents an actor-movie pair object, to be used with the IMDB actor-movie dataset.

A user typically does not create an **ActorMovieIMDB** object. They are usually returned by **bridges::connect::DataSource::getActorMovieIMDBData()** and **bridges::connect::DataSource::getActorMovieIMDBData2()**

Check out the tutorial on the IMDB dataset at https://bridgesuncc.github.io/tutorials/Data_IMDB.html

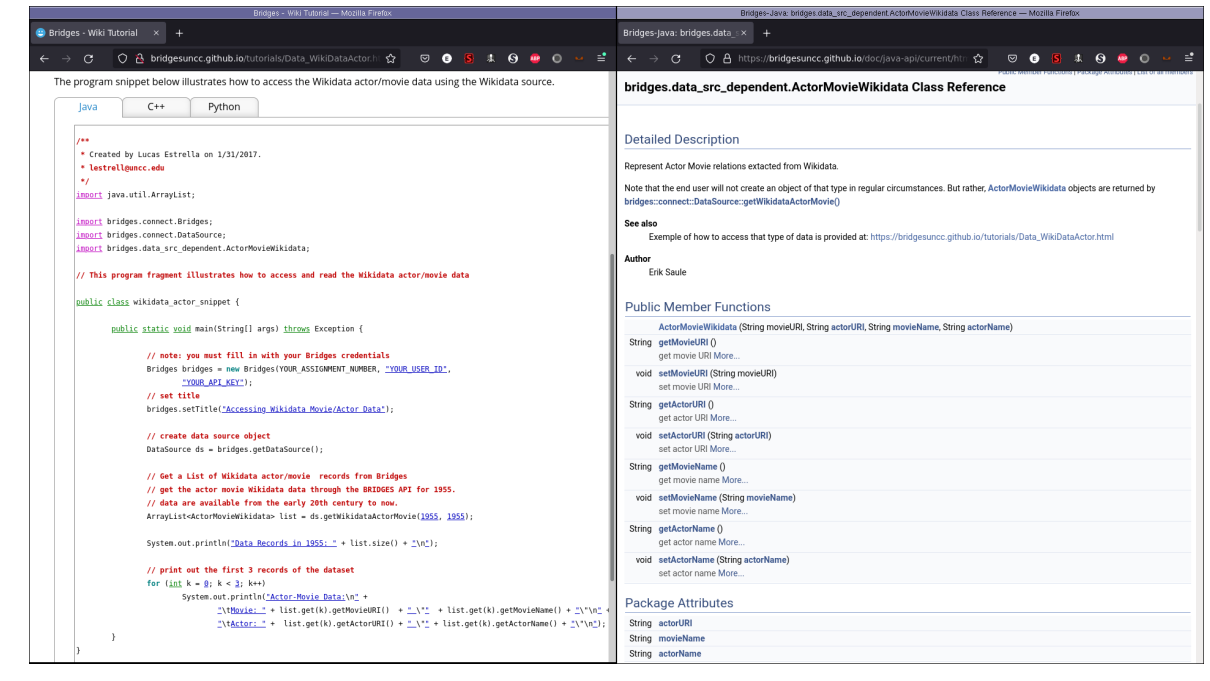
Author
Kalpathi Subramanian

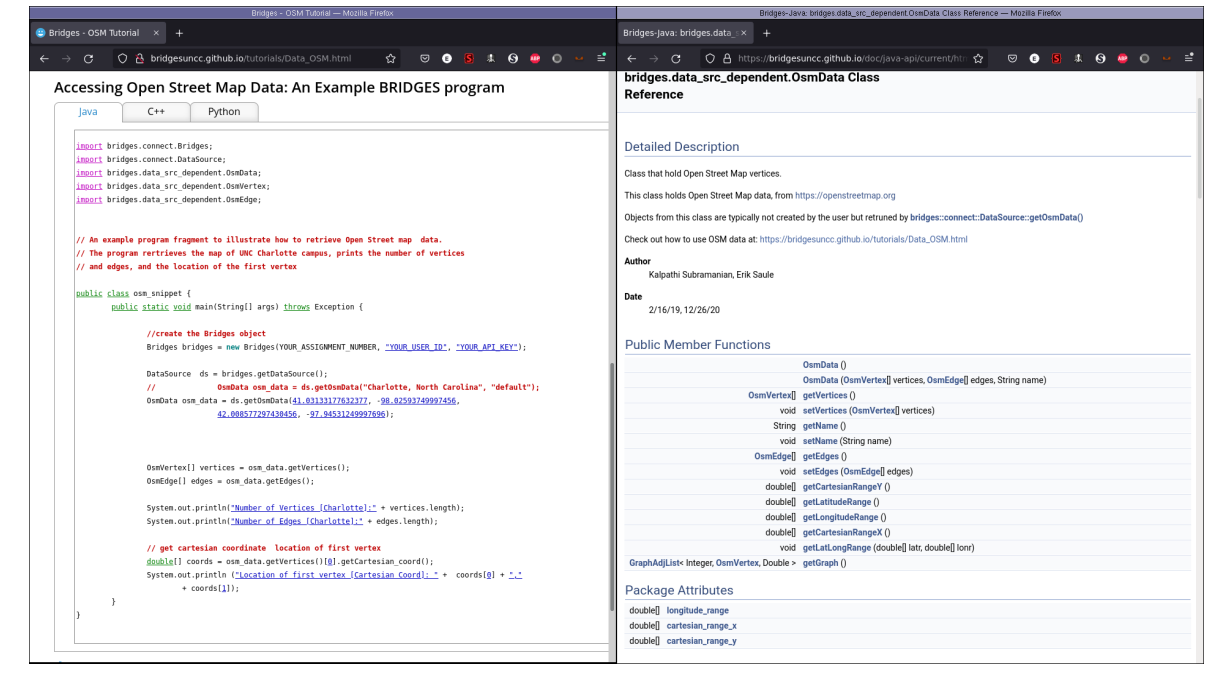
Public Member Functions

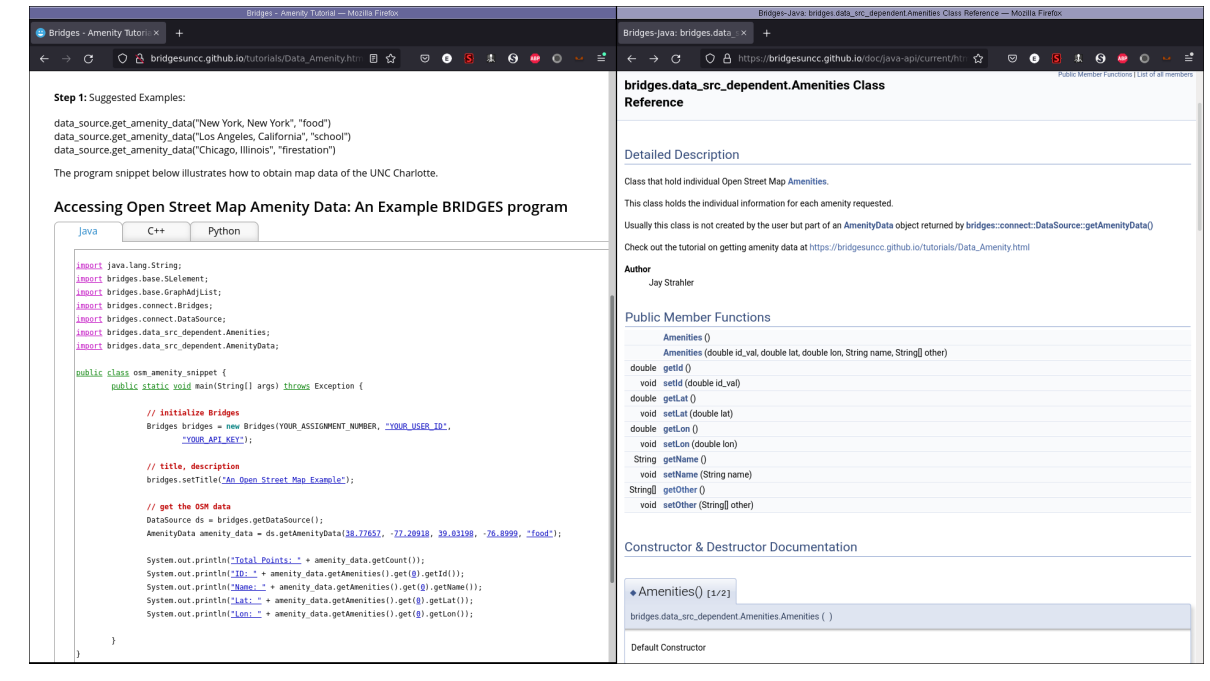
	ActorMovieIMDB ()
String	**getActor** () get the actor from this object More...
void	**setActor** (String a) set the actor from this object More...
String	**getMovie** () get the movie from this object More...
void	**setMovie** (String m) set the movie from this object More...
double	**getMovieRating** () get the movie rating from this object More...
void	**setMovieRating** (double r) set the movie rating for this object More...
Vector< String >	**getGenres** () get the genres of this movie More...
void	**setGenres** (Vector< String > g) set the genres for this movie More...

Package Attributes

String **movie**


Bridges – Wiki Tutorial — Mozilla Firefox
Bridges - Wiki Tutorial
bridgesuncc.github.io/tutorials/Data_WikiDataActor.h
The program snippet below illustrates how to access the Wikidata actor/movie data using the Wikidata source.
Java
C++
Python
/**
* Created by Lucas Estrella on 1/31/2017.
* lestrell@uncc.edu
*/
import java.util.ArrayList;
import bridges.connect.Bridges;
import bridges.connect.DataSource;
import bridges.data_src_dependent.ActorMovieWikidata;
// This program fragment illustrates how to access and read the Wikidata actor/movie data
public class wikidata_actor_snippet {
public static void main(String[] args) throws Exception {
// note: you must fill in with your Bridges credentials
Bridges bridges = new Bridges(YOUR_ASSIGNMENT_NUMBER, "YOUR_USER_ID",
"YOUR_API_KEY");
// set title
bridges.setTitle("Accessing Wikidata Movie/Actor Data");
// create data source object
DataSource ds = bridges.getDataSource();
// Get a List of Wikidata actor/movie records from Bridges
// get the actor movie Wikidata data through the BRIDGES API for 1955.
// data are available from the early 20th century to now.
ArrayList<ActorMovieWikidata> list = ds.getWikidataActorMovie(1955, 1955);
System.out.println("Data Records in 1955: " + list.size() + "\n");
// print out the first 3 records of the dataset
for (int k = 0; k < 3; k++)
System.out.println("Actor-Movie Data:\n" +
"\tMovie: " + list.get(k).getMovieURI() + "_\"" + list.get(k).getMovieName() + "\"\n" +
"\tActor: " + list.get(k).getActorURI() + "_\"" + list.get(k).getActorName() + "\"\n");
}
}
Bridges-Java: bridges.data_src_dependent.ActorMovieWikidata Class Reference — Mozilla Firefox
Bridges-java: bridges.data_
https://bridgesuncc.github.io/doc/java-api/current/ht
Public Member Functions | Package Attributes | List of all members
bridges.data_src_dependent.ActorMovieWikidata Class Reference
Detailed Description
Represent Actor Movie relations extacted from Wikidata.
Note that the end user will not create an object of that type in regular circumstances. But rather, ActorMovieWikidata objects are returned by bridges::connect::DataSource::getWikidataActorMovie()
See also
Exemple of how to access that type of data is provided at: https://bridgesuncc.github.io/tutorials/Data_WikiDataActor.html
Author
Erik Saule
Public Member Functions
ActorMovieWikidata (String movieURI, String actorURI, String movieName, String actorName)
String getMovieURI ()
get movie URI More...
void setMovieURI (String movieURI)
set movie URI More...
String getActorURI ()
get actor URI More...
void setActorURI (String actorURI)
set actor URI More...
String getMovieName ()
get movie name More...
void setMovieName (String movieName)
set movie name More...
String getActorName ()
get actor name More...
void setActorName (String actorName)
set actor name More...
Package Attributes
String actorURI
String movieName
String actorName


Bridges - OSM Tutorial — Mozilla Firefox
Bridges - OSM Tutorial
bridgesuncc.github.io/tutorials/Data_OSM.html
Accessing Open Street Map Data: An Example BRIDGES program
Java
C++
Python
import bridges.connect.Bridges;
import bridges.connect.DataSource;
import bridges.data_src_dependent.OsmData;
import bridges.data_src_dependent.OsmVertex;
import bridges.data_src_dependent.OsmEdge;
// An example program fragment to illustrate how to retrieve Open Street map data.
// The program rertrieves the map of UNC Charlotte campus, prints the number of vertices
// and edges, and the location of the first vertex
public class osm_snippet {
public static void main(String[] args) throws Exception {
//create the Bridges object
Bridges bridges = new Bridges(YOUR_ASSIGNMENT_NUMBER, "YOUR_USER_ID", "YOUR_API_KEY");
DataSource ds = bridges.getDataSource();
// OsmData osm_data = ds.getOsmData("Charlotte, North Carolina", "default");
OsmData osm_data = ds.getOsmData(41.0313317632377, -98.02593749997456,
42.008577297430456, -97.94531249997696);
OsmVertex[] vertices = osm_data.getVertices();
OsmEdge[] edges = osm_data.getEdges();
System.out.println("Number of Vertices [Charlotte]:" + vertices.length);
System.out.println("Number of Edges [Charlotte]:" + edges.length);
// get cartesian coordinate location of first vertex
double[] coords = osm_data.getVertices()[0].getCartesian_coord();
System.out.println ("Location of first vertex [Cartesian Coord]: " + coords[0] + ","
+ coords[1]);
}
}
Bridges-Java: bridges.data_src_dependent.OsmData Class Reference — Mozilla Firefox
Bridges-Java: bridges.data_
https://bridgesuncc.github.io/doc/java-api/current/ht
bridges.data_src_dependent.OsmData Class Reference
Detailed Description
Class that hold Open Street Map vertices.
This class holds Open Street Map data, from https://openstreetmap.org
Objects from this class are typically not created by the user but retruned by bridges::connect::DataSource::getOsmData()
Check out how to use OSM data at: https://bridgesuncc.github.io/tutorials/Data_OSM.html
Author
Kalpathi Subramanian, Erik Saule
Date
2/16/19, 12/26/20
Public Member Functions
OsmData ()
OsmData (OsmVertex[] vertices, OsmEdge[] edges, String name)
OsmVertex[] getVertices ()
void setVertices (OsmVertex[] vertices)
String getName ()
void setName (String name)
OsmEdge[] getEdges ()
void setEdges (OsmEdge[] edges)
double[] getCartesianRangeY ()
double[] getLatitudeRange ()
double[] getLongitudeRange ()
double[] getCartesianRangeX ()
void getLatLongRange (double[] latr, double[] lonr)
GraphAdjList< Integer, OsmVertex, Double > getGraph ()
Package Attributes
double[] longitude_range
double[] cartesian_range_x
double[] cartesian_range_y


Bridges - Amenity Tutorial — Mozilla Firefox
Bridges - Amenity Tutorial
bridgesuncc.github.io/tutorials/Data_Amenity.html
Step 1: Suggested Examples:
data_source.get_amenity_data("New York, New York", "food")
data_source.get_amenity_data("Los Angeles, California", "school")
data_source.get_amenity_data("Chicago, Illinois", "firestation")
The program snippet below illustrates how to obtain map data of the UNC Charlotte.
Accessing Open Street Map Amenity Data: An Example BRIDGES program
Java
C++
Python
import java.lang.String;
import bridges.base.SLelement;
import bridges.base.GraphAdjList;
import bridges.connect.Bridges;
import bridges.connect.DataSource;
import bridges.data_src_dependent.Amenities;
import bridges.data_src_dependent.AmenityData;
public class osm_amenity_snippet {
public static void main(String[] args) throws Exception {
// initialize Bridges
Bridges bridges = new Bridges(YOUR_ASSIGNMENT_NUMBER, "YOUR_USER_ID",
"YOUR_API_KEY");
// title, description
bridges.setTitle("An Open Street Map Example");
// get the OSM data
DataSource ds = bridges.getDataSource();
AmenityData amenity_data = ds.getAmenityData(38.77657, -77.20918, 39.03198, -76.8999, "food");
System.out.println("Total Points: " + amenity_data.getCount());
System.out.println("ID: " + amenity_data.getAmenities().get(0).getId());
System.out.println("Name: " + amenity_data.getAmenities().get(0).getName());
System.out.println("Lat: " + amenity_data.getAmenities().get(0).getLat());
System.out.println("Lon: " + amenity_data.getAmenities().get(0).getLon());
}
}
Bridges-Java: bridges.data_src_dependent.Amenities Class Reference — Mozilla Firefox
Bridges-Java: bridges.data_
https://bridgesuncc.github.io/doc/java-api/current/ht
Public Member Functions | List of all members
bridges.data_src_dependent.Amenities Class Reference
Detailed Description
Class that hold individual Open Street Map Amenities.
This class holds the individual information for each amenity requested.
Usually this class is not created by the user but part of an AmenityData object returned by bridges::connect::DataSource::getAmenityData()
Check out the tutorial on getting amenity data at https://bridgesuncc.github.io/tutorials/Data_Amenity.html
Author
Jay Strahler
Public Member Functions
Amenities ()
Amenities (double id_val, double lat, double lon, String name, String[] other)
double getId ()
void setId (double id_val)
double getLat ()
void setLat (double lat)
double getLon ()
void setLon (double lon)
String getName ()
void setName (String name)
String[] getOther ()
void setOther (String[] other)
Constructor & Destructor Documentation
Amenities() [1/2]
bridges.data_src_dependent.Amenities.Amenities ( )
Default Constructor

Reddit

```
import java.util.ArrayList;
import bridges.connect.Bridges;
import bridges.connect.DataSource;
import bridges.data_src_dependent.Reddit;


// This program fragment illustrates how to access the reddit data
public class reddit_snippet {
        public static void main(String[] args) throws Exception {

                // create Bridges object
                Bridges bridges = new Bridges (YOUR_ASSSIGNMENT_NUMBER, "YOUR_USER_ID", "YOUR_API_KEY");

                DataSource ds = bridges.getDataSource();

                ArrayList<String> subreddits = ds.getAvailableSubreddits();

                // get some data from the  "Ask Science" subreddit
                ArrayList<Reddit> reddit_posts = ds.getRedditData("askscience");
                for (Reddit r: reddit_posts) {
                    System.out.println("ID: "+r.getID());
                    System.out.println("Title: "+r.getTitle());
                    System.out.println("Author: "+r.getAuthor());
                    System.out.println("Score: "+r.getScore());
                    System.out.println("VoteRatio: "+r.getVoteRatio());
                    System.out.println("CommentCount: "+r.getCommentCount());
                    System.out.println("Subreddit: "+r.getSubreddit());
                    System.out.println("PostTime: "+r.getPostTime());
                    System.out.println("URL: "+r.getURL());
                    System.out.println("Text: "+r.getText());
                    System.out.println("");
                }

        }
}
```

Detailed Description

A reddit object representing a reddit post, used along with the reddit data source.

This is a convenience class provided for users who wish to use this data source as part of their application. It provides an API that makes it easy to access the attributes of this data set.

This object is generally not created by the user, to see how its created check out bridges::data_src_dependent::data_source::reddit_data()

For an example, check out https://bridgesuncc.github.io/tutorials/Data_Reddit.html

Author
Erik Saule, Jay Strahler

Date
12/12/22

Public Member Functions

def __init__ (self, id=0, title="", author="", score=0, vote_ratio=0.0, comment_count=0, subreddit="", post_time=0, url="", text="")
def **id** (self)
return id of the reddit post More...
def **id** (self, i)
def **title** (self)
return the title of the reddit post More...
def **title** (self, i)
def **author** (self)
return the author of the reddit post More...
def **author** (self, i)
def **score** (self)
return the score (upvotes-downvotes) of the reddit post More...
def **score** (self, i)
def **vote_ratio** (self)
ratio of upvote to downvotes of the reddit post More...
def **vote_ratio** (self, i)
def **comment_count** (self)
number of comments on that reddit post More...
def **comment_count** (self, i)
def **subreddit** (self)
name of the subreddit the post appeared in More...
def **subreddit** (self, i)
def **post_time** (self)
time the post was made (UNIX time) More...
def **post_time** (self, i)
def **url** (self)
URL associated with the post. More...
def **url** (self, i)
def **text** (self)
returns the text of the reddit post. More...
def **text** (self, i)

Table of Contents

Arrays

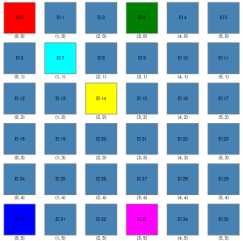
Bridges-Java: bridges.data_src_dependent.Song Class Reference — Mozilla Firefox

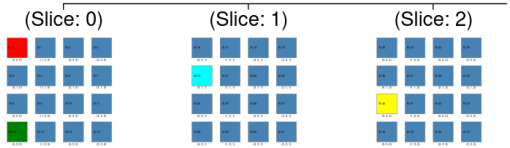
Bridges - Array Tutorial — Mozilla Firefox

Bridges - Array Tutorial

bridgesuncc.github.io/tutorials/Array.html

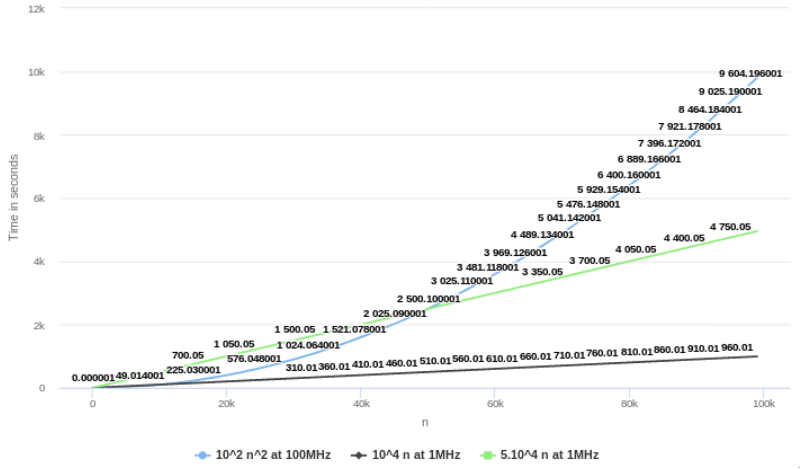
```
import bridges.base.Array1D;

public class array1d {
	public static void main(String[] args) throws Exception {

		//create the Bridges object, set credentials
		Bridges bridges = new Bridges(YOUR_ASSIGNMENT_NUMBER, "YOUR_USER_ID",
				"YOUR_API_KEY");

		// title, description
		bridges.setTitle("One-Dimensional Array Example");
		bridges.setDescription("One dimensional  array with visual attributes");

		//  set array dimensions, allocate array of elements
		int arraySize = 10;

		Array1D<Integer> arr = new Array1D<Integer> (arraySize);

		// populate the array, with squares of indices
		// use the values to label the elements
		for (int k = 0; k < arr.getSize(); k++) {
			arr.getElement(k).setValue(k * k);
			arr.getElement(k).setLabel(String.valueOf(arr.getElement(k).getValue()));
		}

		// color the array elements
		arr.getElement(0).setColor("red");
		arr.getElement(1).setColor("green");
		arr.getElement(2).setColor("blue");
		arr.getElement(3).setColor("cyan");
		arr.getElement(4).setColor("magenta");
		arr.getElement(5).setColor("yellow");
		arr.getElement(6).setColor("red");
		arr.getElement(7).setColor("green");
		arr.getElement(8).setColor("blue");
		arr.getElement(9).setColor("black");

		// tell Bridges what datastructure to visualize
		bridges.setDataStructure(arr);

		// visualize the list
		bridges.visualize();
	}
}
```



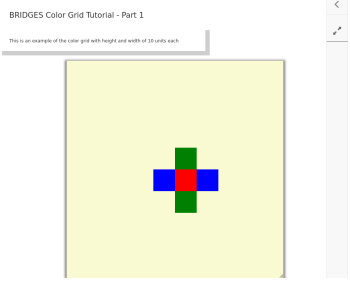


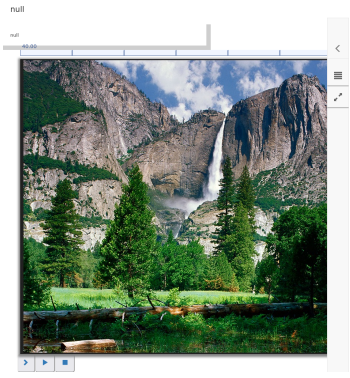
AudioClip

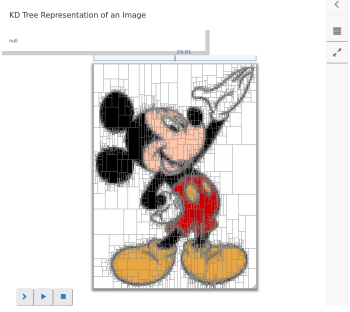
LineChart


12k
10k
8k
6k
4k
2k
0
Time in seconds
0
20k
40k
60k
80k
100k
n
0.000001
49.014001
225.030001
576.048001
1 024.064001
1 521.078001
2 025.090001
2 500.100001
3 025.110001
3 481.118001
3 969.126001
4 489.134001
5 041.142001
5 476.148001
5 929.154001
6 400.160001
6 889.166001
7 396.172001
7 921.178001
8 464.184001
9 025.190001
9 604.196001
700.05
1 050.05
1 500.05
3 350.05
4 050.05
4 400.05
4 750.05
310.01
360.01
410.01
460.01
510.01
560.01
610.01
660.01
710.01
760.01
810.01
860.01
910.01
960.01
10^2 n^2 at 100MHz
10^4 n at 1MHz
5.10^4 n at 1MHz

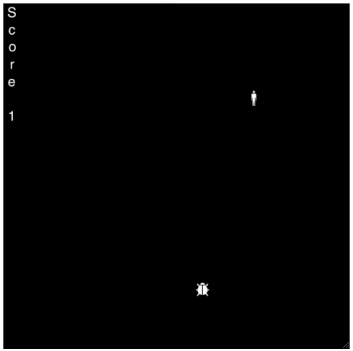
ColorGrid

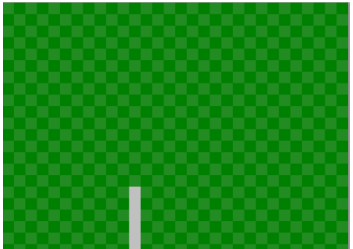

BRIDGES Color Grid Tutorial - Part 1
This is an example of the color grid with height and width of 10 units each

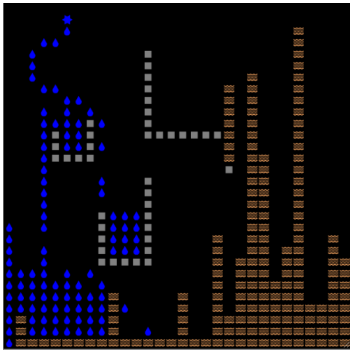

null
null
40.00

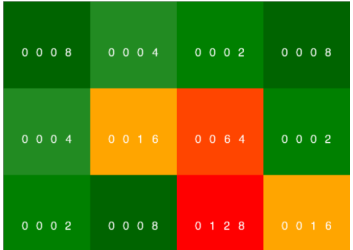

KD Tree Representation of an Image
null
24.01

Games

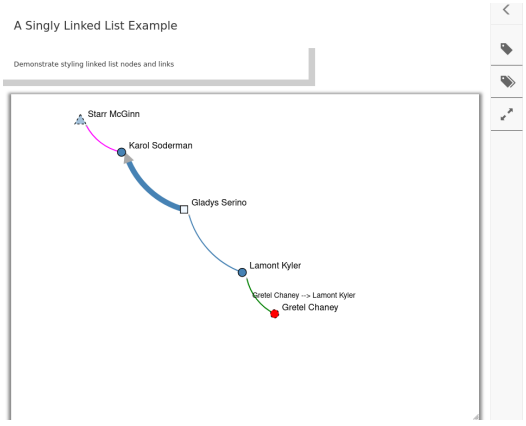

Score
1

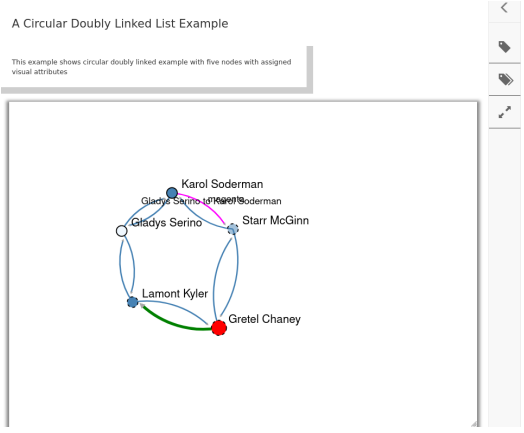




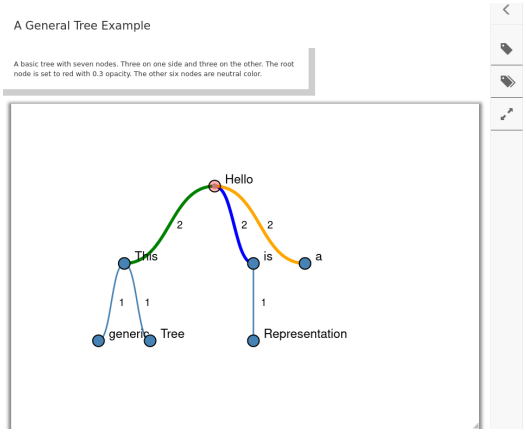

0008
0004
0002
0008
0004
0016
0064
0002
0002
0008
0128
0016

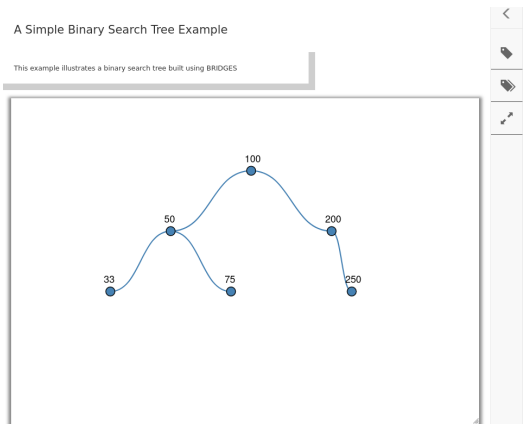
Linked List


A Singly Linked List Example
Demonstrate styling linked list nodes and links
Starr McGinn
Karol Soderman
Gladys Serino
Lamont Kyler
Gretel Chaney --> Lamont Kyler
Gretel Chaney

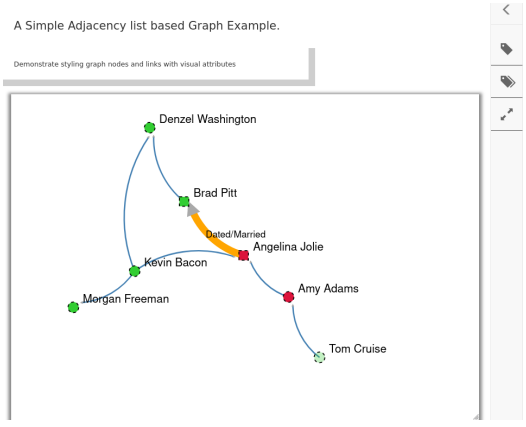

A Circular Doubly Linked List Example
This example shows circular doubly linked example with five nodes with assigned visual attributes
Karol Soderman
Gladys Serino to Karol Soderman
Gladys Serino
Starr McGinn
Lamont Kyler
Gretel Chaney

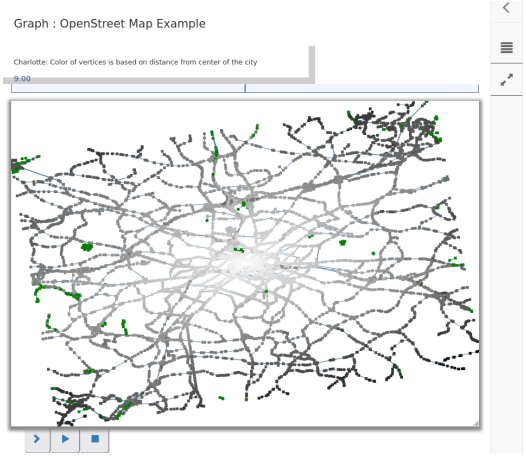
Trees


A General Tree Example
A basic tree with seven nodes. Three on one side and three on the other. The root node is set to red with 0.3 opacity. The other six nodes are neutral color.
Hello
This
is
a
generic
Tree
Representation
2
2
2
1
1
1


A Simple Binary Search Tree Example
This example illustrates a binary search tree built using BRIDGES
100
50
200
33
75
250

Graphs

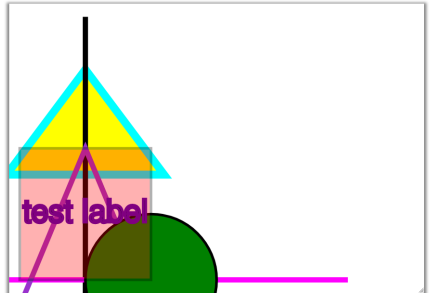

A Simple Adjacency list based Graph Example.
Demonstrate styling graph nodes and links with visual attributes
Denzel Washington
Brad Pitt
Dated/Married
Angelina Jolie
Kevin Bacon
Morgan Freeman
Amy Adams
Tom Cruise


Graph : OpenStreet Map Example
Charlotte: Color of vertices is based on distance from center of the city
9.00

Shape Collection

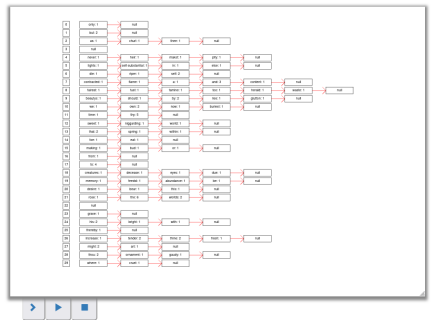
Symbol Collection

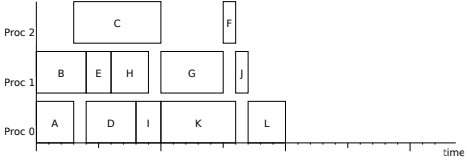
Red square, green circle, magenta horizontal and vertical lines, and a test label with a purple outline.



PQBook

MinHeap represented as a Binary Tree.





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Assignment Repository

- Structured by course and topics: **[BRIDGES Assignments]**
- By course/learning outcomes: **[PDF]**