OODB Data Structures

Base Class:
Class Db_obj

DataType	Member	Description
string	name	String to identify the database object
int	type	The type of object it is: TABLE, IMAGE, VIDEO, SOUND, XML, etc.

Class Table **extends** Db_obj

DataType	Member	Description
list<Column>	columns	A STL List of Columns
list<Column> iterator	current_column	A "pointer" to the current column. Can be use as a working ptr.
Int	n_columns	Number of Columns in the table.
Int	n_tuples	Number of Tuples in the table.

Class Image **extends** Db_obj

DataType	Member	Description
string	filename	//location .\oodb_dbs\filename
int	file_type	PNG, JPG, …
HWND	hwnd	A handle to the window the image will be shown in. See WIN32 API doc.
OODB_RGB **	pixels	A pointer to the 2-D array of pixels of this image. Not always will the pixels be in memory, only when the image is being shown.
int	height	Height of the image.
int	width	Width of the image.

Class Column

DataType	Member	Description
string	name	String to identify the column.
int	domain	Which domain, values will come from for this column: INT, CHAR, DATE, REAL
bool	not_null	If data in this column can be NULL
int	unique	If true, all data elements in the column are unique.

int	p_size	Used for printing of a table, It holds the length of the biggest (string wise) element
list<Data>	tuple	A list of data in this column.
list<Data> iterator	current_tuple	A “pointer” to the current data in the column. All pointers should be pointing to the same row.

Abstract Class Data

DataType	Member	Description
bool	is_null	Is this data NULL.

Methods of Class Data:

```
virtual string to_string(void) = 0;
virtual void assign(const string&) = 0;
virtual bool operator < (Data&) = 0;
virtual bool operator > (Data&) = 0;
virtual bool operator >= (Data&) = 0;
virtual bool operator <= (Data&) = 0;
virtual bool operator != (Data&) = 0;
virtual bool operator == (Data&) = 0;
```

Each of these methods has to be implemented in the extending classes of Data.

Class Char **extends** Data

DataType	Member	Description
string	data	Use the string class for Char’s

Class Integer **extends** Data

DataType	Member	Description
int	data	Use a int for Integer’s

Class Real **extends** Data

DataType	Member	Description
double	data	Use a double for Real’s

Class Date **extends** Data

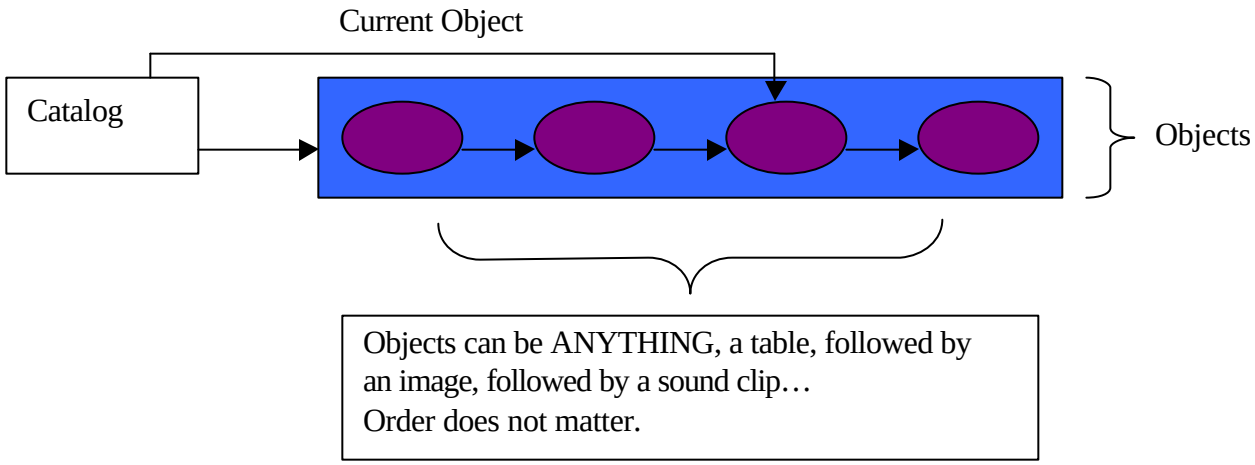
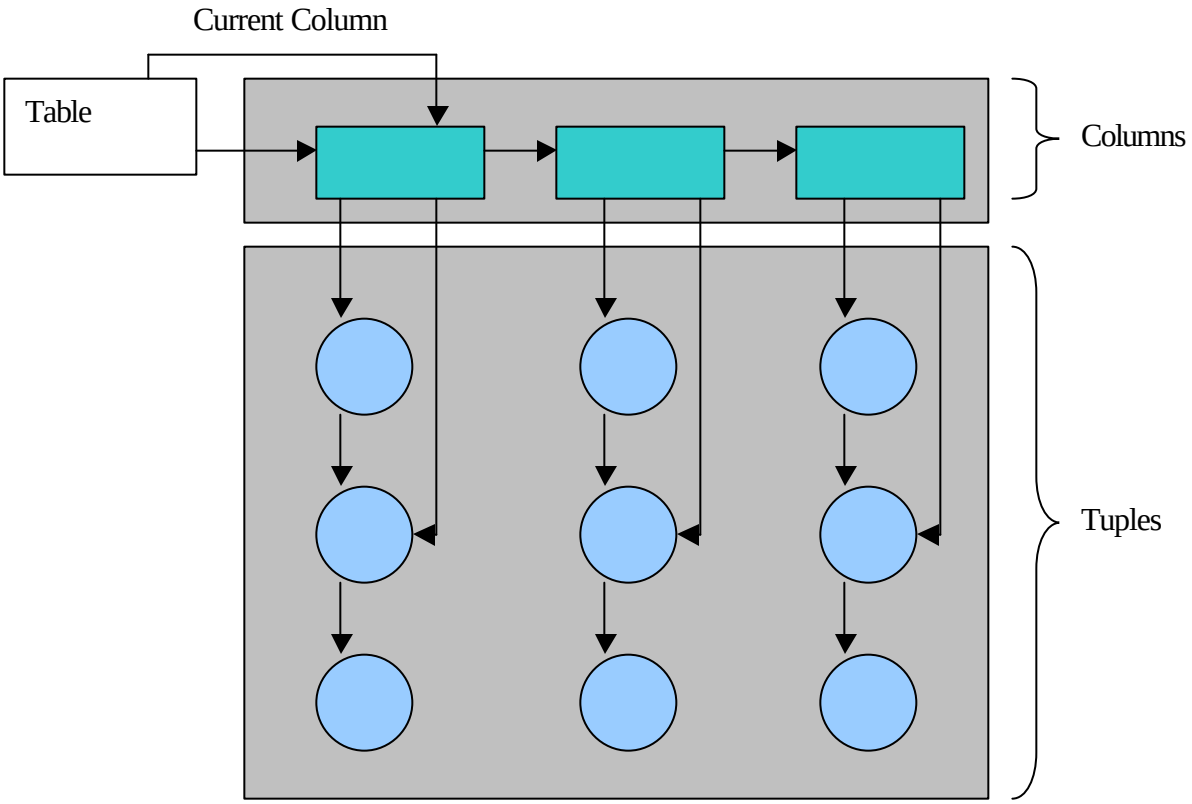
DataType	Member	Description
string	data	Use the string class for Date’s

Class Catalog

DataType	Member	Description
list<Db_obj *>	objects	A STL List of Objects in the DB Space
string	space_name	String to identify which db

		space the Catalog holds.
list<Db_obj> iterator	current_object	A “pointer” to the current object. Can be used as a working ptr.
int	n_objs	Number of objects in the Catalog.

Visualization of a Catalog::



Visualization of a Table::