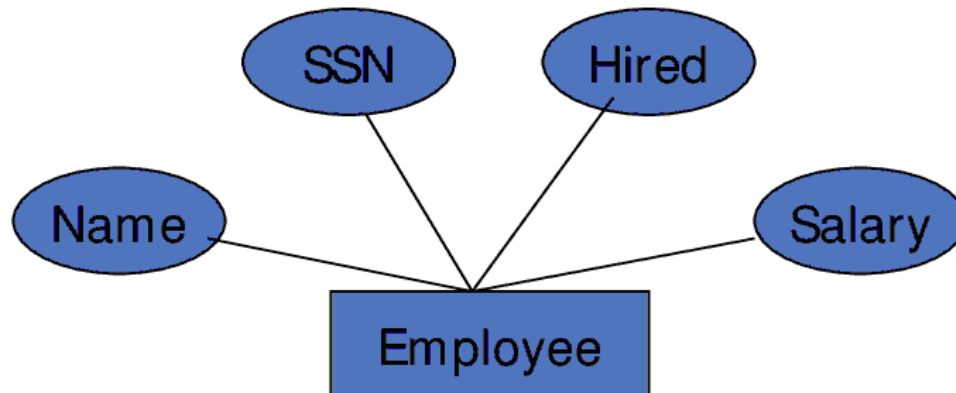


What is an ODBMS?

- Database that stores data elements as objects. Uses object-oriented concepts.
 - Object - like an entity in an E-R Diagram.



Object Oriented Database

An object database is a database management system in which information is represented in the form of objects as used in object-oriented programming.

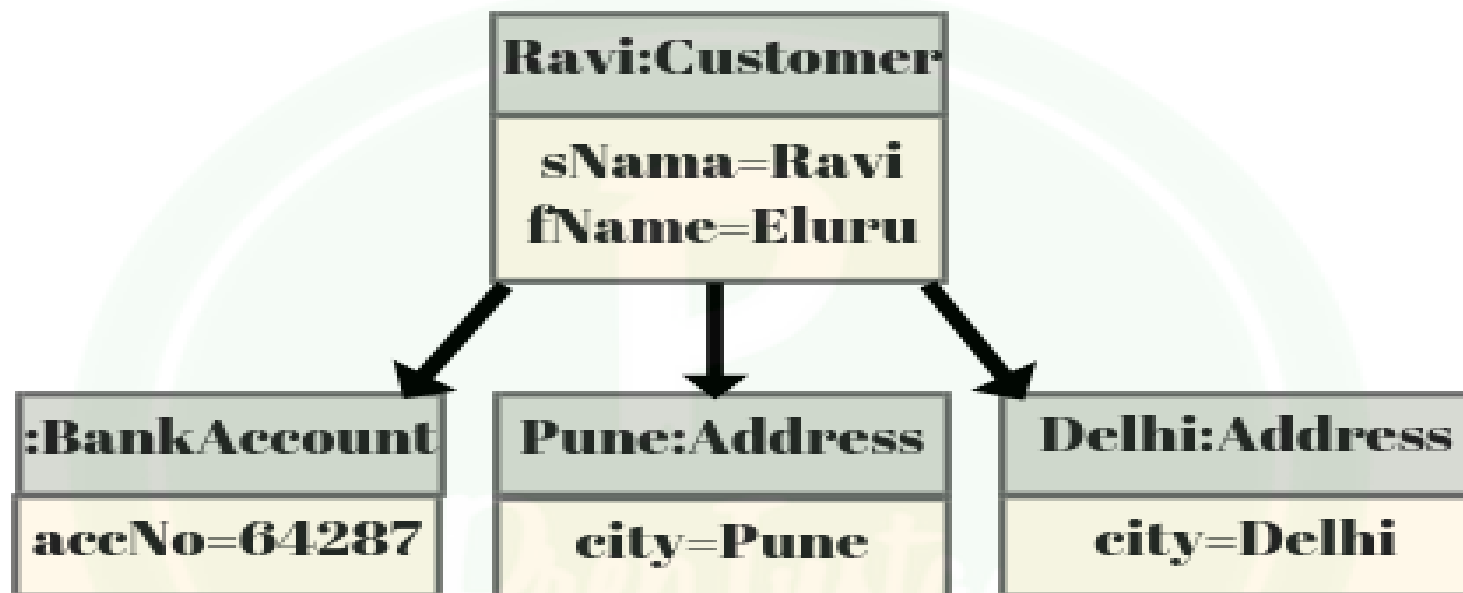
Object databases are different from relational databases which are table-oriented. Object-relational databases are a hybrid of both approaches.


An object-oriented database is a collection of object-oriented programming and relational database. There are various items which are created using object-oriented programming languages like C++, Java which can be stored in relational databases, but object-oriented databases are well-suited for those items.

An object-oriented database is organized around objects rather than actions, and data rather than logic. For example, a multimedia record in a relational database can be a definable data object, as opposed to an alphanumeric value.



Object Oriented Database Model





Starting in 2004, object databases have seen a second growth period when open source object databases emerged that were widely affordable and easy to use, because they are entirely written in OOP languages like Smalltalk, Java, or C#, such as Versant's db4o (db4objects), DTS/S1 from Obsidian Dynamics and Perst (McObject), available under dual open source and commercial licensing.

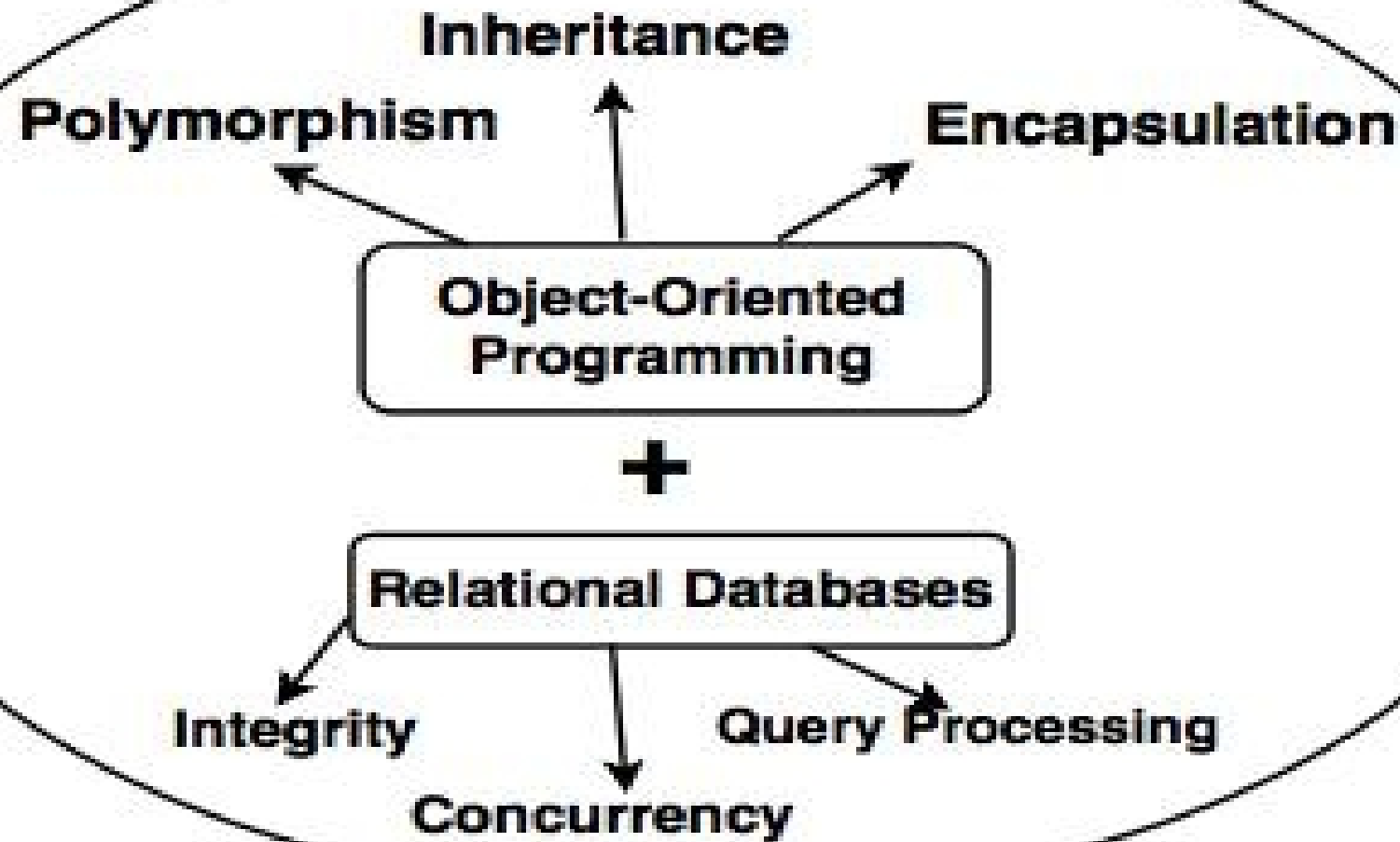
What is an example of an object oriented DBMS?

Common examples are Smalltalk is used in GemStone, LISP is used in Gbase, and COP is used in Vbase.

Object databases are commonly used in applications that require high performance, calculations, and faster results.

Comparison with RDBMSs

An object database stores complex data and relationships between data directly, without mapping to relational rows and columns, and this makes them suitable for applications dealing with very complex data. Objects have a many-to-many relationship and are accessed by the use of pointers. Pointers are linked to objects to establish relationships. Another benefit of an OODBMS is that it can be programmed with small procedural differences without affecting the entire system.



(Object-Oriented database is product of OOP and RDB)

Object-Oriented database

Object-Oriented Model

Class

Object / Object instance

Variable

Method

Relational Model

Relation / Table

Tuple / Record

Attribute / Column

Stored Procedure

Different

ODBMS

Following is the one of the approach for designing an object-oriented database:

- ◆ **The user will create classes, objects, inheritance and so on.**
- ◆ **Database system will store and manage these objects and classes.**
- ◆ **Translation layer is required to map the objects created by user into objects of the database system.**

Object Database (ODBMS) for Java, written entirely in Java, and compliant with the Java Data Objects (JDO) standard developed By Sun.