Bitmap   seperate file
Don't need to use API

Catalog

Storing Catalog Info
tableName, attributeName, type, keys, foreign keys, indexes, views, triggers, stored procedures, UDFs...Statistics

Ex.
Students(SID int, SNAME string, Age int , GPA float, Major String)
"Column Table":

Colname	tableName	Position	Type	Nullable
SID	students	1	int	N
Sname	students	2	string	Y
Age	students	3	float	Y
Colname	Columns	1	string	N
tableName	Columns	2	string	N
position	Columns	3	int	N

Buffer Management
manage disk I/O efficence   mini-sec

micro-sec

For every disk page fetched into memory, keep the following info:
Disk page #
Dirty flag: modify pay attention to kick out. write back to disk flush
pin #: multiple users   kick out when pin# = 0
last-used-time

replace policy

Control Info   h(disk page #)