1. ?

   1. 1NF , (
)
   2. 2NF 1NF
      2NF 1NF

   3. 3NF 2NF
      3NF
      > >>1.
      >>2. >>3.

2. ?

   1. PreparedStatement Statement sql

   2.

   3.
   4. UNION ALL UNION
      UNION
      ALL >>UNION UNION ALL
      >1.
      UNION Union All
      >2. Union
      UNION ALL

3. ?

   1. :
   2. : MySQL

   3. :

   4. : MySQL

4. mysql

   B B+

5.MySQL :

1. MySQL :Debian service mysql status RedHat service mysqld status
2. MySQL : service mysqld start service mysqld stop
3. Shell MySQL: mysql -u root -p
4. : show databases;
5. : use database*name;* *database*name
6. : show tables;
7. Field :describe table_name;

6.mysql

Mysql Mysql Mysql slaves *

1. 2. replay log 3.

7.mysql ?

1. SQL MySQL
2. . mysql5.0
3. :

8.mysql myisam innodb

1. > *MyISAM* , *InnoDB* > InnoDB (commit) (rollback) (crash recovery capabilities) (transaction-safe (ACID compliant))
2. InnoDB MyISAM . >> myisam select update delete insert insert

3. InnoDB MVCC, MyISAM
4. InnoDB MyISAM
5. > *MyISAM*
   > InnoDB
   6 ( )

6. InnoDB MyISAM
7. > *MyISAM*

   > InnoDB
   binlog mysqldump G

8. > *MyISAM* *MyISAM*
   .frm
   .MYD (MYData)
   .MYI (MYIndex) > InnoDB
   InnoDB
   2GB

9.mysql varchar char varchar(50) 50

1. varchar char : char varchar
   .
2. varchar(50) 50 : 50
3. int 20 20 : int(M) M indicates the maximum display width ( )for integer types. The maximum legal display width is 255.

10.MySQL InnoDB

1. Read Uncommitted >>

   Dirty Read
2. Read Committed >>
   MySQL

   Nonrepeatable Read
   commit select

3. Repeatable Read >> MySQL

   Phantom

Read

“ ” InnoDB Falcon
MVCC Multiversion Concurrency Control

4. Serializable >>

<table> <thead> <tr> <th align="left"> </th> <th align="left"> Dirty Read </th> <th align="left"> NonRepeatable Read </th> <th align="left"> Phantom Read </th> </tr> </thead> <tbody><tr> <td align="left"> Read uncommitted </td> <td align="left"> </td> <td align="left"> </td> <td align="left"> </td> </tr> <tr> <td align="left"> Read committed </td> <td align="left"> </td> <td align="left"> </td> <td align="left"> </td> </tr> <tr> <td align="left"> Repeatable read </td> <td align="left"> </td> <td align="left"> </td> <td align="left"> </td> </tr> <tr> <td align="left"> SERIALIZABLE </td> <td align="left"> </td> <td align="left"> </td> <td align="left"> </td> </tr> </tbody></table>

11. X text X

text,blob)
MYSQL
16K

UPDAE UPDATE

12.MySQL InnoDB

InnoDB MySQL
Oracle InnoDB
InnoDB
InnoDB

13.MySQL

1. Key*buffer*size > * key*buffer*size

Key*read*requests Key*reads* *key*buffer*size* *key*reads /key*read*requests 1:100 1:1000 SHOW STATUS LIKE `key*read%'* > * *key*buffer*size* *MyISAM* *MyISAM* *MyISAM* *created*tmp*disk*tables 1G MyISAM 16M 8-64M > * key*buffer*size >>>1. key*buffer* *4G* *4G* *3* *bug: >>>>> http://bugs.mysql.com/bug.php?id=29446
 >>>>> http://bugs.mysql.com/bug.php?id=29419
 >>>>> http://bugs.mysql.com/bug.php?id=5731
 >>>2.* *key*buffer 1/4(MyISAM) 30%~40% key*buffer*size MySQL

>>>3. key*buffer*, *key*buffer

2. innodb*buffer*pool_size > *InnoDB* *mysql* *128M* *CPU* *32* *4294967295 (2^32-1)* *64* *18446744073709551615 (2^64-1)* > 32 CPU 1G innodb*buffer*pool*instances* *1.* > * , *innodb*buffer*pool*size

, buffer pool 3/4 4/5 , , buffer pool , buffer pool innodb*buffer*pool_instances ,

3. query*cache*size > *mysql* *select* *query* *mysql* *query* *hash* *hash* *hash* *hash query cache* *hash* *hash* *query* *cache* *hash* *hash* *query* *cache* *query* *table* *hash* *query* *cache* *query* *mysql* *query cache* *table* *query* *cache* > query cache >> 1. query hash hash

mysql select query hash
query cache hash
query
query hash
>> 2. query cache
query cache
>> 3. sql
query sql
sql
hash >> 4.

4. read*buffer*size > MySQL
MySQL
read*buffer*size

14. VARCHAR(N) utf8 N
( )?

utf8 3 MySQL
65535 N (65535-1-2)/3 1
2
3 utf8 3

15. [SELECT *] [SELECT] 2 ?

1.
2.
3.
4.
5.

16.HAVNG WHERE ?

1. where having select
2. where having

3. where having

4. where having

17.MySQL insert, update

INSERT INTO table (a,b,c) VALUES (1,2,3) ON DUPLICATE KEY UPDATE c=c+1;

18.MySQL insert update select

`SQL insert into student (stuid,stuname,deptid) select 10,'xzm',3 from student where stuid > 8;

update student a inner join student b on b.stuID=10 set a.stuname=concat(b.stuname, b.stuID) where a.stuID=10 ; `