EXAMEN SQL 13/11/2019

# Exercice 1: CREATION DE LA BASE DE DONNEES

mysql> CREATE DATABASE laterineindia

-> CHARACTER SET utf8

-> COLLATE utf8\_general\_ci;

mysql> CREATE USER 'indialaterine'@'localhost' IDENTIFIED BY '12345678';

mysql> USE mysql;

Database changed

mysql> SELECT User, Host

-> FROM User

-> WHERE User = 'indialaterine';

+---------------+-----------+

| User | Host |

+---------------+-----------+

| indialaterine | localhost |

+---------------+-----------+

1 row in set (0.01 sec)

mysql> GRANT SELECT, INSERT, UPDATE, DELETE

-> ON laterineindia.\*

-> TO 'indialaterine'@'localhost';

mysql> FLUSH PRIVILEGES;

# EXERCICE 2: CONCEPTION DE MODELE DE DONNEES

CREATE TABLE GlobLatrines (

idAllLat INT NOT NULL AUTO\_INCREMENT,

libStat VARCHAR(128) NOT NULL,

libEnv VARCHAR(128) NOT NULL,

pitLat INT(11) NOT NULL,

wCloset INT(11) NOT NULL,

otherLat INT(11) NOT NULL,

noLat INT(11) NOT NULL,

PRIMARY KEY (idAllLat))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

CREATE TABLE GlobalMaterials (

idAllMat INT NOT NULL AUTO\_INCREMENT,

libStat VARCHAR(128) NOT NULL,

libEnv VARCHAR(128) NOT NULL,

mud INT(11) NOT NULL,

wood INT(11) NOT NULL,

brick INT(11) NOT NULL,

stone INT(11) NOT NULL,

cement INT(11) NOT NULL,

mosaic INT(11) NOT NULL,

anyOther INT(11) NOT NULL,

PRIMARY KEY (idAllMat))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

CREATE TABLE states (

idState INT NOT NULL AUTO\_INCREMENT,

libState VARCHAR(128) NOT NULL,

PRIMARY KEY (idstate))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

CREATE TABLE type (

idType INT NOT NULL AUTO\_INCREMENT,

libType VARCHAR(128) NOT NULL,

PRIMARY KEY (idtype))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

CREATE TABLE materials (

idMat INT NOT NULL AUTO\_INCREMENT,

mud INT NULL,

wood INT NULL,

brick INT NULL,

stone INT NULL,

cement INT NULL,

mosaic INT NULL,

any INT NULL,

PRIMARY KEY (idmat))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

CREATE TABLE env (

idEnv INT NOT NULL AUTO\_INCREMENT,

idState INT NULL,

idType INT NULL,

PRIMARY KEY (idenvi))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

ALTER TABLE env

ADD UNIQUE (idState,idType);

CREATE TABLE latrine (

idLat INT NOT NULL AUTO\_INCREMENT,

pitLatrine INT NULL,

waterClosed INT NULL,

otherLatrine INT NULL,

noLatrine INT NULL,

PRIMARY KEY (idequip))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

CREATE TABLE equipenvi (

idEnv INT NULL,

idLat INT NULL,

UNIQUE(idEnvi,idEquip))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

CREATE TABLE matenvi (

idEnvi INT NULL,

idMat INT NULL,

UNIQUE(idEnvi,idMat))

ENGINE = InnoDB

DEFAULT CHARACTER SET = utf8;

# EXERCICE 3: INSERTION DES DONNEES

INSERT INTO globlatrines (libStat, libEnv, pitLat, wCloset, otherLat, noLat)

VALUES ("ANDHRA PRADESH 28","Rural","809705","1093148","397842","10375523"),

("ANDHRA PRADESH 28","Urban","630179","1960525","667807","915128"),

("ARUNACHAL PRADESH 12","Rural","39513","9940","28418","86630"),

("ARUNACHAL PRADESH 12","Urban","15434","13499","12903","6278"),

("ASSAM 18","Rural","1979800","363519","170485","1706369"),

("ASSAM 18","Urban","188702","421092","66741","38650"),

("BIHAR 10","Rural","755668","526492","479431","10898416"),

("BIHAR 10","Urban","150391","574602","196767","400823"),

("CHHATTISGARH 22","Rural","59659","61434","52901","3185084"),

("CHHATTISGARH 22","Urban","40676","306495","68034","374235"),

("GOA 30","Rural","26636","29316","11911","72892"),

("GOA 30","Urban","25948","53831","16080","42602"),

("GUJARAT 24","Rural","475894","663847","134782","4611438"),

("GUJARAT 24","Urban","366410","2334150","326408","731060"),

("HARYANA 06","Rural","502207","51845","149461","1750950"),

("HARYANA 06","Urban","284714","333201","249377","207887"),

("HIMACHAL PRADESH 02","Rural","164167","70258","69777","793318"),

("HIMACHAL PRADESH 02","Urban","17166","71153","22197","32597"),

("JAMMU & KASHMIR 01","Rural","190753","33450","261231","675923"),

("JAMMU & KASHMIR 01","Urban","78751","103602","156815","51243"),

("JHARKHAND 20","Rural","80582","84693","84517","3552620"),

("JHARKHAND 20","Urban","78521","437172","191197","353288"),

("KARNATAKA 29","Rural","632514","311500","217245","5513914"),

("KARNATAKA 29","Urban","736283","1595616","343868","881193"),

("KERALA 32","Rural","631664","3063983","324374","922529"),

("KERALA 32","Urban","183557","1235462","101728","131909"),

("MADHYA PRADESH 23","Rural","315561","213056","197601","7398577"),

("MADHYA PRADESH 23","Urban","332437","1148702","412089","901630"),

("MAHARASHTRA 27","Rural","1124458","585470","292008","8991687"),

("MAHARASHTRA 27","Urban","571036","3580166","535330","3382994"),

("MANIPUR 14","Rural","198029","13708","17925","66692"),

("MANIPUR 14","Urban","67834","20815","7904","4749"),

("MEGHALAYA 17","Rural","98370","12339","21490","197479"),

("MEGHALAYA 17","Urban","30005","39435","13505","7623"),

("MIZORAM 15","Rural","55677","3271","4337","16077"),

("MIZORAM 15","Urban","44477","28170","7353","1604"),

("NAGALAND 13","Rural","125410","15705","30410","93809"),

("NAGALAND 13","Urban","27000","13255","22539","3922"),

("ORISSA 21","Rural","209472","223290","90510","6259607"),

("ORISSA 21","Urban","103055","468113","77767","438313"),

("PUNJAB 03","Rural","731747","177292","226487","1639936"),

("PUNJAB 03","Urban","305813","692949","290145","200787"),

("RAJASTHAN 08","Rural","579921","227428","238036","6111318"),

("RAJASTHAN 08","Urban","397910","886868","378726","522087"),

("SIKKIM 11","Rural","27296","22326","4816","37285"),

("SIKKIM 11","Urban","251","11322","373","1069"),

("TAMIL NADU 33","Rural","377122","609067","201730","7086871"),

("TAMIL NADU 33","Urban","658193","2682181","454527","2103935"),

("TRIPURA 16","Rural","356303","24631","39650","119096"),

("TRIPURA 16","Urban","54806","52763","11051","3723"),

("UTTAR PRADESH 09","Rural","1716646","401200","1840724","16631504"),

("UTTAR PRADESH 09","Urban","934442","1653335","1549079","1033671"),

("UTTARANCHAL 05","Rural","192541","85770","99685","818161"),

("UTTARANCHAL 05","Urban","104258","159255","75478","51173"),

("WEST BENGAL 19","Rural","1712827","778345","514682","8156016"),

("WEST BENGAL 19","Urban","1042595","2513682","307646","690122"),

("ANDAMAN & NICOBAR ISLANDS 35","Rural","6154","9127","5737","28635"),

("ANDAMAN & NICOBAR ISLANDS 35","Urban","1578","13739","2589","5503"),

("CHANDIGARH 04","Rural","1363","10137","3098","6704"),

("CHANDIGARH 04","Urban","1849","127789","14950","35988"),

("DADRA & NAGAR HAVELI 26","Rural","74","5538","67","27104"),

("DADRA & NAGAR HAVELI 26","Urban","388","8010","241","2551"),

("DAMAN & DIU 25","Rural","2069","4468","537","15017"),

("DAMAN & DIU 25","Urban","419","7418","179","4235"),

("DELHI 07","Rural","55767","32255","18586","62920"),

("DELHI 07","Urban","362087","1129239","393275","500020"),

("LAKSHADWEEP 31","Rural","20","4881","83","367"),

("LAKSHADWEEP 31","Urban","30","2729","499","631"),

("PONDICHERRY 34","Rural","708","14325","434","56732"),

("PONDICHERRY 34","Urban","2994","81057","4692","47713")

INSERT INTO globmaterials (libStat, libEnv, mud, wood, brick, stone, cement, mosaic, anyOther)

VALUES ("ANDHRA PRADESH 28","Rural","7997880","45420","94488","3829081","2931084","84033","48655"),

("ANDHRA PRADESH 28","Urban","496367","10447","28101","2362869","1558039","473033","50847"),

("ARUNACHAL PRADESH 12","Rural","62617","116707","292","401","37272","89","388"),

("ARUNACHAL PRADESH 12","Urban","20571","10794","309","377","33669","147","127"),

("ASSAM 18","Rural","4536303","190347","49671","19399","387350","8810","2410"),

("ASSAM 18","Urban","389088","18905","27090","11562","503712","23629","718"),

("BIHAR 10","Rural","12768815","86920","344648","35388","1305839","27232","7064"),

("BIHAR 10","Urban","621004","13685","82412","10721","948452","63331","1016"),

("CHHATTISGARH 22","Rural","3591454","7716","9415","149724","248636","8881","1896"),

("CHHATTISGARH 22","Urban","353191","2506","6200","127069","423907","67147","984"),

("GOA 30","Rural","105529","391","850","1245","77329","38726","613"),

("GOA 30","Urban","36384","704","1034","1393","99997","93363","1310"),

("GUJARAT 24","Rural","4452316","19276","33951","327585","1819712","857525","14808"),

("GUJARAT 24","Urban","376692","13349","21264","568100","1357705","2558329","26383"),

("HARYANA 06","Rural","1916218","5375","520770","35181","1003792","56099","7049"),

("HARYANA 06","Urban","220096","3282","155829","78591","976468","119526","7999"),

("HIMACHAL PRADESH 02","Rural","1297320","228996","6528","50324","571209","10132","3830"),

("HIMACHAL PRADESH 02","Urban","28127","7030","1518","1879","192280","9034","715"),

("JAMMU & KASHMIR 01","Rural","1555302","151794","9660","8926","391929","4661","3214"),

("JAMMU & KASHMIR 01","Urban","130680","20299","5125","3239","464219","17996","1508"),

("JHARKHAND 20","Rural","3801701","6243","48437","6281","619037","4861","2647"),

("JHARKHAND 20","Urban","339473","6704","27843","4361","935525","34438","971"),

("KARNATAKA 29","Rural","4910985","41439","41400","1418565","2407358","132880","45854"),

("KARNATAKA 29","Urban","534482","17031","23660","853468","2467362","912206","23406"),

("KERALA 32","Rural","1791236","21667","53279","80733","4505922","392957","48982"),

("KERALA 32","Urban","284427","5094","22466","17821","1716511","378387","37392"),

("MADHYA PRADESH 23","Rural","9209664","18594","45042","321367","654200","131912","11758"),

("MADHYA PRADESH 23","Urban","1103837","12342","25222","512506","1349038","615130","8734"),

("MAHARASHTRA 27","Rural","10777153","64916","105431","533788","1126947","1658651","142109"),

("MAHARASHTRA 27","Urban","1412513","48147","74552","551808","2530113","6316465","258796"),

("MANIPUR 14","Rural","286826","48365","2112","1671","22342","586","127"),

("MANIPUR 14","Urban","92392","2604","2237","1344","30153","1426","186"),

("MEGHALAYA 17","Rural","173749","167671","1588","1209","55987","370","818"),

("MEGHALAYA 17","Urban","16345","40313","431","792","59981","1020","328"),

("MIZORAM 15","Rural","7330","76349","83","106","7142","4","174"),

("MIZORAM 15","Urban","7194","56040","164","105","34948","249","181"),

("NAGALAND 13","Rural","187841","68061","1573","1379","35331","551","182"),

("NAGALAND 13","Urban","25835","13717","577","391","43670","1181","56"),

("ORISSA 21","Rural","6507071","72064","78575","39601","1661232","13539","6425"),

("ORISSA 21","Urban","391466","35953","16897","6799","992842","48400","2165"),

("PUNJAB 03","Rural","1907982","6549","655972","104777","1063286","59930","6579"),

("PUNJAB 03","Urban","288532","5585","342473","283772","1149899","81937","10203"),

("RAJASTHAN 08","Rural","5634567","17450","133296","879243","2892857","124357","55774"),

("RAJASTHAN 08","Urban","358679","6368","75403","676792","1704100","353253","25594"),

("SIKKIM 11","Rural","44708","24060","204","2225","38078","475","205"),

("SIKKIM 11","Urban","637","1039","25","56","16250","876","5"),

("TAMIL NADU 33","Rural","4178613","12476","181770","44746","5095522","199742","11842"),

("TAMIL NADU 33","Urban","955203","9546","148668","31472","5024425","1080325","22254"),

("TRIPURA 16","Rural","618452","30644","11307","831","39045","674","202"),

("TRIPURA 16","Urban","83829","1220","7774","737","66737","1638","93"),

("UTTAR PRADESH 09","Rural","23548929","82547","1135947","97578","2180738","115504","17740"),

("UTTAR PRADESH 09","Urban","1766174","31881","827258","144213","3924493","416239","12214"),

("UTTARANCHAL 05","Rural","1389703","52751","21658","71481","461179","12953","2905"),

("UTTARANCHAL 05","Urban","75802","3384","12336","5481","404278","51714","657"),

("WEST BENGAL 19","Rural","11441120","151907","415797","50849","2307003","30558","16077"),

("WEST BENGAL 19","Urban","1245696","59323","194141","29636","3872338","318914","6798"),

("ANDAMAN & NICOBAR ISLANDS 35","Rural","34822","5077","121","181","31392","91","152"),

("ANDAMAN & NICOBAR ISLANDS 35","Urban","2660","1478","136","108","27636","343","25"),

("CHANDIGARH 04","Rural","2605","52","1265","118","22095","269","24"),

("CHANDIGARH 04","Urban","23578","279","4111","5703","160327","20269","3439"),

("DADRA & NAGAR HAVELI 26","Rural","25886","36","295","404","8108","6086","109"),

("DADRA & NAGAR HAVELI 26","Urban","2391","31","166","481","5950","7381","179"),

("DAMAN & DIU 25","Rural","5494","88","77","308","21840","6453","55"),

("DAMAN & DIU 25","Urban","787","81","102","542","8978","9032","65"),

("DELHI 07","Rural","47809","311","24879","4947","147382","18494","866"),

("DELHI 07","Urban","213832","4790","120231","92931","2266101","427073","10310"),

("LAKSHADWEEP 31","Rural","1390","1","12","3","7759","261","33"),

("LAKSHADWEEP 31","Urban","753","2","9","4","5830","338","212"),

("PONDICHERRY 34","Rural","36591","88","600","227","49992","2440","41")

INSERT INTO latrine(pitLatrine, waterClosed, otherLatrine, noLatrine)

SELECT pitLat, wCloset, otherLat, noLat

FROM globlatrines;

INSERT INTO materials(mud, wood, brick, stone, cement, mosaic, any)

SELECT mud, wood, brick, stone, cement, mosaic, anyOther

FROM globmaterials;

INSERT INTO states (libState)

SELECT libStat

FROM globlatrines;

INSERT INTO type (libType)

SELECT DISTINCT libEnv

FROM globlatrines;

INSERT INTO env(idState,idType)

SELECT stat.idState,typ.idType

FROM states stat

INNER JOIN globlatrines glblt ON stat.libState=glblt.libStat

INNER JOIN type typ ON glblt.libEnv=typ.libType;

INSERT INTO equipenvi(idEnvi,idEquip)

SELECT envi.idEnvi,latr.idEquip

FROM globlatrines glblt

INNER JOIN states stat ON stat.libState=glblt.libStat

INNER JOIN env envi ON stat.idState = envi.idEnvi

INNER JOIN latrine latr ON (glblt.pitLat=latr.pitLatrine

AND glblt.wCloset=latr.waterClosed

AND glblt.otherLat=latr.otherLatrine

AND glblt.noLat=latr.noLatrine);

INSERT INTO matenvi(idEnvi,idMat)

SELECT envi.idEnvi, mat.idMat

FROM globmaterials glblm

INNER JOIN states stat ON stat.libState=glblm.libStat

INNER JOIN env envi ON stat.idState=envi.idEnvi

INNER JOIN materials mat ON (glblm.mud=mat.mud

AND glblm.wood=mat.wood

AND glblm.brick=mat.brick

AND glblm.stone=mat.stone

AND glblm.cement=mat.cement

AND glblm.mosaic=mat.mosaic

AND glblm.anyOther=mat.any);

# EXERCICE 4: REQUETES