Assignment: Stored Procedure

Date: 05/10/2020   Name: D.Saravanan

1. Create a table and use INOUT parameter in stored procedure and display the output.

Create and Insert:

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| assignment         |
| dataset            |
| information_schema |
| module             |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
7 rows in set (0.01 sec)

mysql> use assignment;
Database changed
mysql> show tables;
+----------------------+
| Tables_in_assignment |
+----------------------+
| Departments          |
| Employees            |
| School               |
+----------------------+
3 rows in set (0.00 sec)

mysql> create table EmpData(Emp_Id mediumint unsigned unique,
    -> First_Name varchar(10),
    -> Last_Name varchar(10),
    -> Gender varchar(2),
    -> Email_Id varchar(50),
    -> Year_Joining year,
    -> Salary int unsigned,
    -> Last_Hike varchar(5),
    -> Social_Security_Number varchar(15),
    -> Location varchar(20),
    -> User_Name varchar(20),
    -> Password varchar(20));
Query OK, 0 rows affected (1.62 sec)

mysql> load data infile '/var/lib/mysql-files/empdata.csv'
    -> into table EmpData
    -> fields terminated by ','
    -> enclosed by '"'
    -> lines terminated by '\n'
    -> ignore 1 rows;
Query OK, 51 rows affected (0.20 sec)
Records: 51  Deleted: 0  Skipped: 0  Warnings: 0

mysql>
```

Table: EmpData

```
mysql> select * from EmpData limit 45;
+--------+------------+-----------+--------+------------------------------+--------------+--------+-----------+------------------------+----------------+------------+------------------+
| Emp_Id | First_Name | Last_Name | Gender | Email_Id                     | Year_Joining | Salary | Last_Hike | Social_Security_Number | Location       | User_Name  | Password         |
+--------+------------+-----------+--------+------------------------------+--------------+--------+-----------+------------------------+----------------+------------+------------------+
| 677509 | Lois       | Walker    | F      | lois.walker@hotmail.com      |         2003 | 168251 | 21%       | 467-99-4677            | Denver         | lhwalker   | DCa}.T}X:v?NP    |
| 940761 | Brenda     | Robinson  | F      | brenda.robinson@gmail.com    |         2008 |  51063 | 27%       | 537-71-4566            | Stonewall      | bsrobinson | TCoj#Zg;SQ~o     |
| 428945 | Joe        | Robinson  | M      | joe.robinson@gmail.com       |         2016 |  50155 | 16%       | 025-92-3584            | Michigantown   | jwrobinson | GO4$J8MiEh[A     |
| 408351 | Diane      | Evans     | F      | diane.evans@yahoo.com        |         1999 | 180294 | 1%        | 314-35-9851            | Hydetown       | dievans    | 0gGRtp1HfL<r5    |
| 193819 | Benjamin   | Russell   | M      | benjamin.russell@charter.net |         2013 | 117642 | 13%       | 121-98-7248            | Fremont        | brrussell  | Rd<Y8cp!@R;*%F   |
| 499687 | Patrick    | Bailey    | M      | patrick.bailey@aol.com       |         2005 |  72305 | 5%        | 439-99-7721            | Macksburg      | pfbailey   | K7&5aY/*         |
| 539712 | Nancy      | Baker     | F      | nancy.baker@bp.com           |         2016 |  98189 | 0%        | 641-29-2071            | Atlanta        | ntbaker    | xJdKlAcYQhT_BE#  |
| 380086 | Carol      | Murphy    | F      | carol.murphy@gmail.com       |         1983 |  60918 | 20%       | 423-67-7023            | Blanchester    | cvmurphy   | Uc+VG%vuZU<k     |
| 477616 | Frances    | Young     | F      | frances.young@gmail.com      |         1994 | 121587 | 28%       | 028-92-8912            | Delmita        | fbyoung    | K}^USc0l7[A      |
| 162402 | Diana      | Peterson  | F      | diana.peterson@hotmail.co.uk |         2014 |  43010 | 4%        | 512-33-6767            | Eureka Springs | dtpeterson | 3o8>v&tYxjyEAo   |
| 231469 | Ralph      | Flores    | M      | ralph.flores@yahoo.com       |         2009 | 118457 | 8%        | 302-15-0130            | Sabetha        | rlflores   | 7tPLrSr}qTqj     |
| 153989 | Jack       | Alexander | M      | jack.alexander@gmail.com     |         2017 |  82965 | 23%       | 428-09-9413            | Las Vegas      | jcalexander | 9L*-O1U.9mSUSh  |
| 386158 | Melissa    | King      | F      | melissa.king@comcast.net     |         2015 | 166892 | 1%        | 277-17-9106            | New Matamoras  | mqking     | FE5i<e-Y}[4f78   |
| 301576 | Wayne      | Watson    | M      | wayne.watson@gmail.com       |         2017 |  92758 | 14%       | 011-94-6649            | Maida          | wgwatson   | wM4J{]&j-eGc     |
| 441771 | Cheryl     | Scott     | F      | cheryl.scott@gmail.com       |         1990 |  92220 | 12%       | 596-94-2279            | Quecreek       | coscott    | Vbb+~2N]_yR      |
| 528509 | Paula      | Diaz      | F      | paula.diaz@gmail.com         |         1994 | 152654 | 8%        | 234-57-7671            | Beulaville     | pgdiaz     | 3Kg55luU         |
| 912990 | Joshua     | Stewart   | M      | joshua.stewart@yahoo.ca      |         2002 | 184896 | 1%        | 755-07-3676            | New Douglas    | jtstewart  | K?vi9BBznj       |
| 214352 | Theresa    | Lee       | F      | theresa.lee@gmail.com        |         2015 | 197537 | 1%        | 055-02-9969            | Toeterville    | tglee      | JS#hN&Xij%QEr    |
| 890290 | Julia      | Scott     | F      | julia.scott@apple.com        |         2005 | 141518 | 3%        | 251-99-1941            | Primm Springs  | jsscott    | r.:Q7c^Tpb       |
| 622406 | Thomas     | Lewis     | M      | thomas.lewis@gmail.com       |         1998 |  73862 | 3%        | 467-99-2604            | Dutchtown      | tqlewis    | y;OJd_Oa#4g|!G   |
| 979607 | Carol      | Edwards   | F      | carol.edwards@msn.com        |         2016 |  93967 | 30%       | 316-35-9870            | Shreveport     | cjedwards  | wi>v-a9gt        |
| 969580 | Matthew    | Turner    | M      | matthew.turner@gmail.com     |         2016 |  52237 | 9%        | 598-92-1988            | Heathsville    | mlturner   | I>tL>d[|lZdi_|^  |
| 426038 | Joan       | Stewart   | F      | joan.stewart@yahoo.com       |         2009 | 111673 | 12%       | 429-99-6443            | Middleport     | jcstewart  | q@mq.U~D#1MPgZ   |
| 388642 | Ruby       | Rogers    | F      | ruby.rogers@gmail.com        |         2013 | 160623 | 9%        | 236-55-0172            | Woodbury       | rrrogers   | t>#PQD9s<:9V     |
| 560455 | Carolyn    | Hayes     | F      | carolyn.hayes@hotmail.co.uk  |         2001 |  42005 | 14%       | 730-28-1350            | Saint Cloud    | cvhayes    | NY!Y2sw.[_v-Q9{  |
| 477253 | Anne       | Russell   | F      | anne.russell@ibm.com         |         2013 | 103160 | 29%       | 456-99-5619            | Stockholm      | alrussell  | c8Nk&Y^~Vz!2     |
| 263480 | Daniel     | Cooper    | M      | daniel.cooper@yahoo.com      |         2014 | 153790 | 13%       | 181-86-2024            | Manning        | dkcooper   | d8p{Pwx2fsW0-Z   |
| 683826 | Roger      | Roberts   | M      | roger.roberts@gmail.com      |         2009 | 129625 | 12%       | 120-98-6493            | Mount Vernon   | rlroberts  | 41:C_0ik|Jb0iTO  |
| 474599 | Maria      | Walker    | F      | maria.walker@microsoft.com   |         1998 |  48944 | 21%       | 447-27-3175            | Lawrenceburg   | mwwalker   | cw?%U}s{?        |
| 335732 | Brenda     | Butler    | F      | brenda.butler@gmail.com      |         1987 |  60508 | 29%       | 282-15-6434            | Mesa           | bmbutler   | u+CtpZ~gyR*>     |
| 329752 | Lillian    | Brown     | F      | lillian.brown@aol.com        |         2015 |  67251 | 22%       | 249-99-8821            | Panacea        | lxbrown    | CG-M5~z:         |
| 893212 | Amy        | Howard    | F      | amy.howard@aol.com           |         2003 | 112715 | 30%       | 686-24-2843            | Kline          | abhoward   | tNo::TEG         |
| 621833 | Gregory    | Edwards   | M      | gregory.edwards@outlook.com  |         2015 | 169245 | 22%       | 010-94-6817            | Bonanza        | gxedwards  | V^sVy*MO{        |
| 456747 | Roy        | Griffin   | M      | roy.griffin@yahoo.com        |         2012 | 170895 | 19%       | 358-08-7660            | Liberty        | rzgriffin  | qm&h<b.NsKaZ     |
| 278556 | Richard    | Mitchell  | M      | richard.mitchell@verizon.net |         2016 | 122226 | 14%       | 013-94-5886            | Ohatchee       | rymitchell | RWeXJPOi:KpX<Rn  |
| 333476 | Mary       | Wilson    | F      | mary.wilson@sbcglobal.net    |         1991 | 109394 | 16%       | 198-84-0652            | Nashville      | mpwilson   | Pwl&W:|<_        |
| 218791 | Aaron      | Price     | M      | aaron.price@bp.com           |         1997 |  54402 | 0%        | 491-29-5152            | Eckerty        | anprice    | uKxgV4uO&k@      |
| 134841 | Donna      | Brown     | F      | donna.brown@aol.com          |         2013 | 129836 | 8%        | 544-81-5182            | Lima           | drbrown    | u?%QOo2ykK       |
| 726264 | Carl       | Collins   | M      | carl.collins@yahoo.com       |         2007 | 162159 | 7%        | 544-81-6171            | Wright         | cncollins  | XinULSmjAFL/     |
| 766610 | Joyce      | Jenkins   | F      | joyce.jenkins@aol.com        |         2010 | 119321 | 13%       | 695-16-6506            | Ellsworth      | jejenkins  | C5/iW3Ry#o{~elV  |
| 923947 | Mary       | Bryant    | F      | mary.bryant@verizon.net      |         2004 | 155442 | 4%        | 491-29-7461            | Conroy         | mgbryant   | A[iR?Z1{         |
| 227922 | Amanda     | Hughes    | F      | amanda.hughes@rediffmail.com |         2007 | 114257 | 22%       | 311-35-2540            | Lake Charles   | amhughes   | B2N>J{_k7]F      |
| 265813 | Jack       | Campbell  | M      | jack.campbell@gmail.com      |         2007 | 186280 | 23%       | 047-15-1537            | Kalvesta       | jecampbell | rhN>WRr4hl~1     |
| 247137 | Alan       | Rivera    | M      | alan.rivera@apple.com        |         2006 | 154810 | 12%       | 399-31-7149            | Knoxville      | aerivera   | rSuD~3HS*{S      |
| 407061 | Elizabeth  | Jackson   | F      | elizabeth.jackson@aol.com    |         2005 |  85420 | 24%       | 660-24-4434            | Rochester      | eqjackson  | EAHcnWsf6xMRwr]  |
+--------+------------+-----------+--------+------------------------------+--------------+--------+-----------+------------------------+----------------+------------+------------------+
45 rows in set (0.00 sec)

mysql>
```

1

Parameter mode: in

```
mysql> # parameter mode: in
mysql>
mysql> delimiter //
mysql> create procedure emailid (in empid mediumint, in name varchar(10)) begin select Email_Id from EmpData where Emp_Id = empid and First_Name = name; end//
Query OK, 0 rows affected (0.20 sec)

mysql> call emailid (301576, 'Wayne')//
+------------------------+
| Email_Id               |
+------------------------+
| wayne.watson@gmail.com |
+------------------------+
1 row in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

mysql> create procedure highpay (in pay int) begin select Emp_Id, First_Name, Salary, Last_Hike from EmpData where Salary > pay order by Salary limit 5; end//
Query OK, 0 rows affected (0.17 sec)

mysql> call highpay (60000)//
+--------+------------+--------+-----------+
| Emp_Id | First_Name | Salary | Last_Hike |
+--------+------------+--------+-----------+
| 335732 | Brenda     |  60508 | 29%       |
| 380086 | Carol      |  60918 | 20%       |
| 363065 | Nancy      |  61924 | 4%        |
| 329752 | Lillian    |  67251 | 22%       |
| 499687 | Patrick    |  72305 | 5%        |
+--------+------------+--------+-----------+
5 rows in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

mysql> create procedure genderpay (in pay int) begin select Gender, max(Salary) as Max_Salary, count(Last_Hike) as Hike_Count from EmpData where Salary < pay group by Gender; end//
Query OK, 0 rows affected (0.20 sec)

mysql> call genderpay (60000)//
+--------+------------+------------+
| Gender | Max_Salary | Hike_Count |
+--------+------------+------------+
| F      |      51063 |          4 |
| M      |      54402 |          3 |
+--------+------------+------------+
2 rows in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

mysql> delimiter ;
mysql>
```

Parameter mode: out

```
mysql> # parameter mode: out
mysql>
mysql> delimiter //
mysql> create procedure avgSalary (out result int unsigned)
    -> begin
    -> select avg(Salary) into result from EmpData;
    -> select result;
    -> end//
Query OK, 0 rows affected (0.23 sec)

mysql> call avgSalary (@result)//
+--------+
| result |
+--------+
| 114644 |
+--------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

mysql> create procedure isaverage (in value int unsigned, out result varchar(25))
    -> begin
    -> declare avgSalary int unsigned default 0;
    -> select avg(Salary) into avgSalary from EmpData;
    -> if (avgSalary < value) then
    -> set result = 'above average salary';
    -> elseif (avgSalary = value) then
    -> set result = 'average salary';
    -> else
    -> set result = 'below average salary';
    -> end if;
    -> select result;
    -> end//
Query OK, 0 rows affected (0.21 sec)

mysql> call isaverage (121587, @result)//
+----------------------+
| result               |
+----------------------+
| above average salary |
+----------------------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

mysql> delimiter ;
mysql> drop procedure avgSalary;
Query OK, 0 rows affected (0.20 sec)

mysql> drop procedure isaverage;
Query OK, 0 rows affected (0.18 sec)

mysql>
```

Parameter mode: inout

```
mysql> # parameter mode: inout
mysql>
mysql> delimiter //
mysql> create procedure payhike (in empid int unsigned, out hikePercent int unsigned, out increment int unsigned, inout pay int unsigned)
    -> begin
    -> declare hike decimal(3,2) default 0.00;
    -> declare startYear int unsigned;
    -> declare avgYear int unsigned;
    -> select Year_Joining into startYear from EmpData where Emp_Id = empid and Salary = pay;
    -> select avg(Year_Joining) into avgYear from EmpData;
    -> if (startYear < avgYear) then
    -> set hike = 0.15;
    -> elseif (startYear = avgYear) then
    -> set hike = 0.10;
    -> else
    -> set hike = 0.05;
    -> end if;
    -> set hikePercent = hike*100;
    -> set increment = pay*hike;
    -> set pay = pay + increment;
    -> select hikePercent, increment, pay;
    -> end//
Query OK, 0 rows affected (0.16 sec)

mysql> delimiter ;
mysql>
mysql> set @pay = 42005;
Query OK, 0 rows affected (0.00 sec)

mysql> call payhike (560455, @hikePercent, @increment, @pay);
+------------+-----------+-------+
| hikePercent | increment | pay   |
+------------+-----------+-------+
|         15 |      6301 | 48306 |
+------------+-----------+-------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

mysql> set @pay = 160623;
Query OK, 0 rows affected (0.00 sec)

mysql> call payhike (388642, @hikePercent, @increment, @pay);
+------------+-----------+--------+
| hikePercent | increment | pay    |
+------------+-----------+--------+
|          5 |      8031 | 168654 |
+------------+-----------+--------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

mysql>
```

Parameter mode: inout

```
mysql> # parameter mode: inout
mysql>
mysql> delimiter //
mysql> create procedure mathCal (in m int, in n int, out x int, out y int, inout z int)
    -> begin
    -> declare num1 int default 0;
    -> declare num2 int default 0;
    -> declare num3 int default 0;
    -> while num1 < m do
    -> while num2 < n do
    -> set num2 = num2 + 1;
    -> set num3 = num3 + 1;
    -> end while;
    -> set num1 = num1 + 1;
    -> set num2 = 0;
    -> end while;
    -> set x = num1, y = num3;
    -> set z = x + y + z;
    -> select x, y, z;
    -> end//
Query OK, 0 rows affected (0.18 sec)

mysql> delimiter ;
mysql>
mysql> set @z = 30;
Query OK, 0 rows affected (0.00 sec)

mysql> call mathCal (10, 20, @x, @y, @z);
+------+------+------+
| x    | y    | z    |
+------+------+------+
|   10 |  200 |  240 |
+------+------+------+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

mysql> set @z = -20;
Query OK, 0 rows affected (0.00 sec)

mysql> call mathCal(-5, 7, @x, @y, @z);
+------+------+------+
| x    | y    | z    |
+------+------+------+
|    0 |    0 |  -20 |
+------+------+------+
1 row in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

mysql>
```