Department of Software Engineering Mehran University of Engineering and Technology, Jamshoro			
Course: SWE324 - Data Warehousing and Data Mining			
Instructor	Rabeea Jaffari	**Practical/Lab No.**	04
Date		**CLOs**	CLO-4: P3 & P4
Signature		**Assessment Score**	1 Mark

Topic	**To familiar with OLTP system reporting**
Objectives	- To learn report generation in OLTP systems

Lab Discussion: Theoretical concepts and Procedural steps

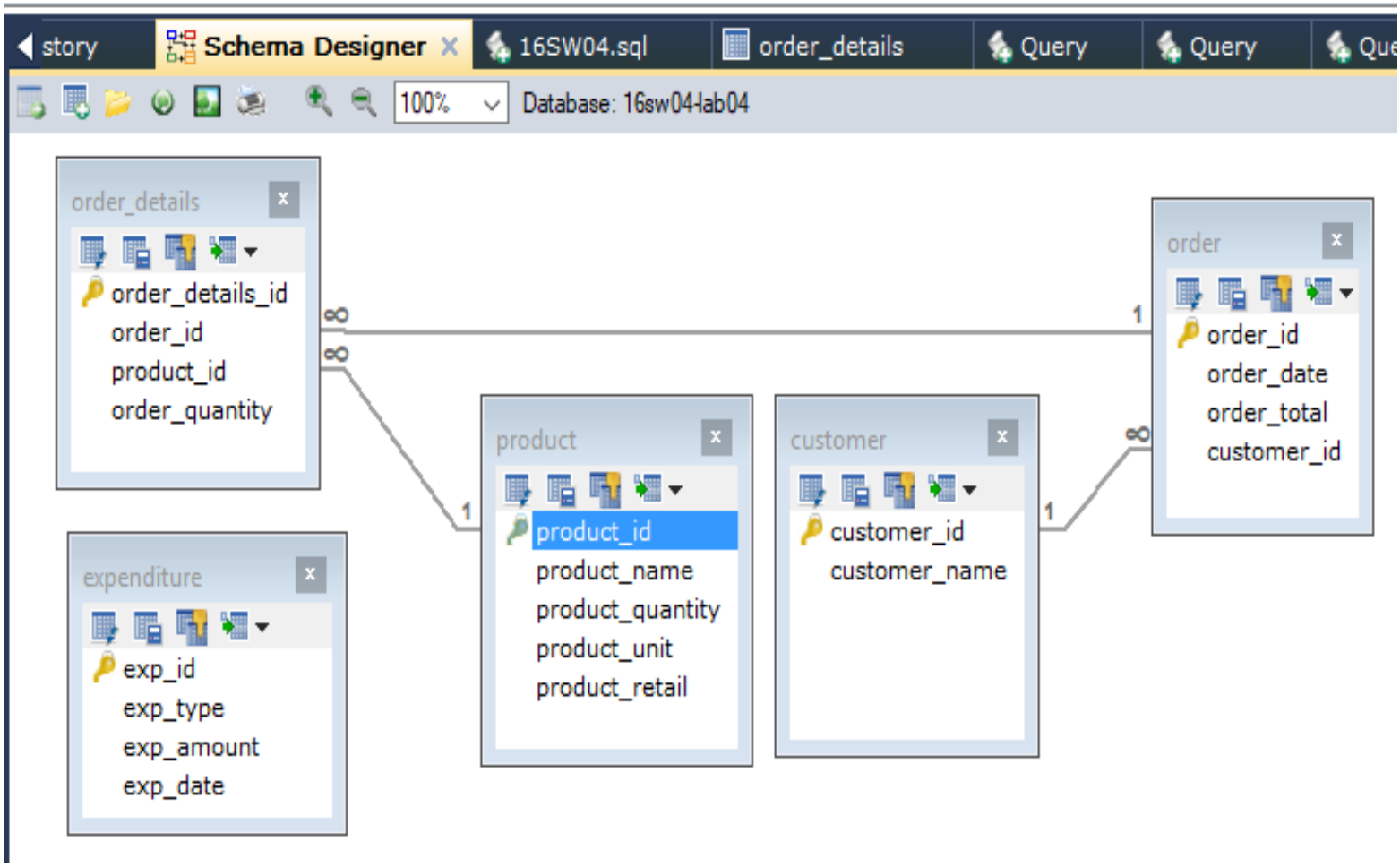
Lab Tasks

Submission Date: 23-04-19

Generate an OLTP system report which displays the following results:

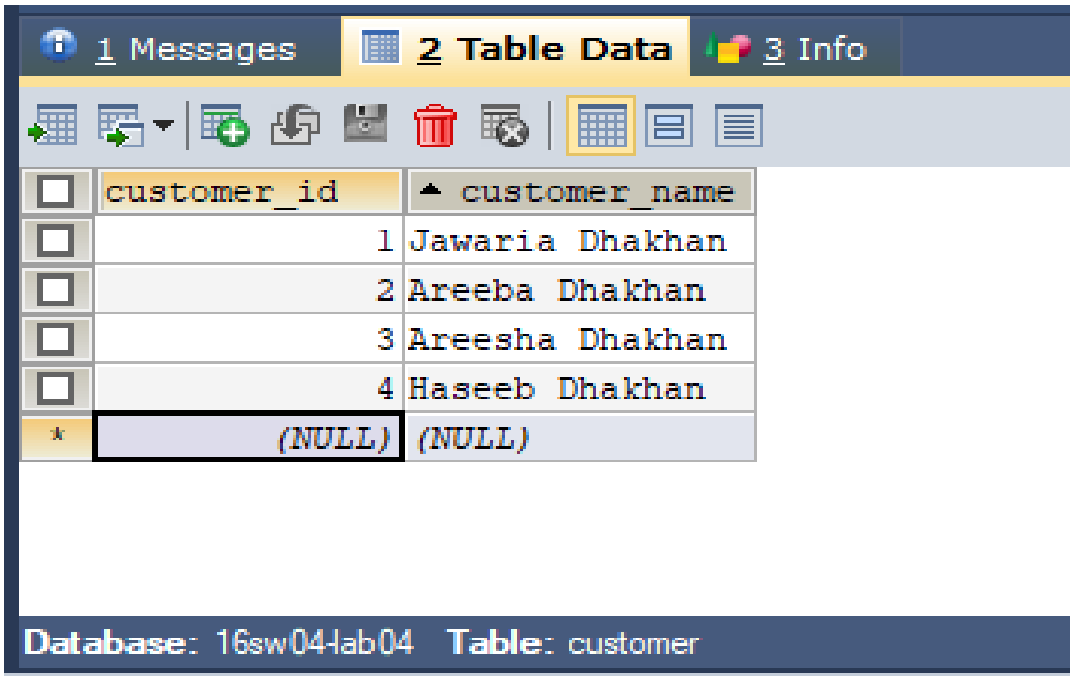
1. **Total sales in a month** (Use only order table).
2. **Profit/loss in a month** (Use product (to account for purchasing costs), expenditure as well as order tables).
3. **Highest selling product of the month**(By highest sold quantity)
4. **Lowest selling product of the month**(By lowest sold quantity)

Hint: Create a report table to hold all the above results from queries after they are executed in the stored procedure and then create a stored procedure in the similar manner as shown above.

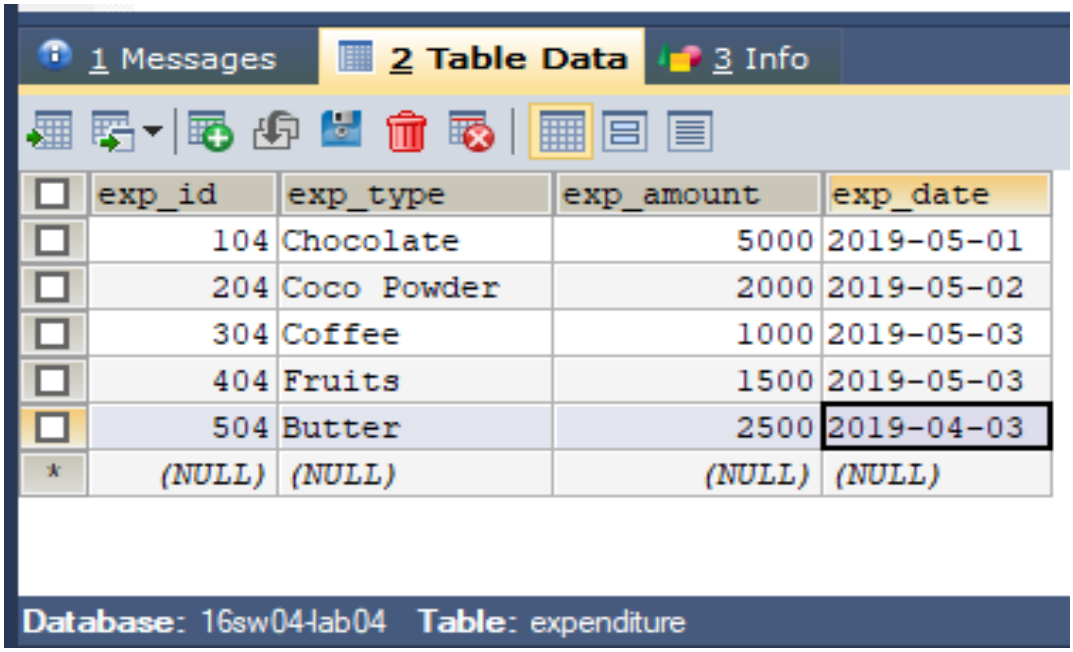


1. **Tables in SQLYog**

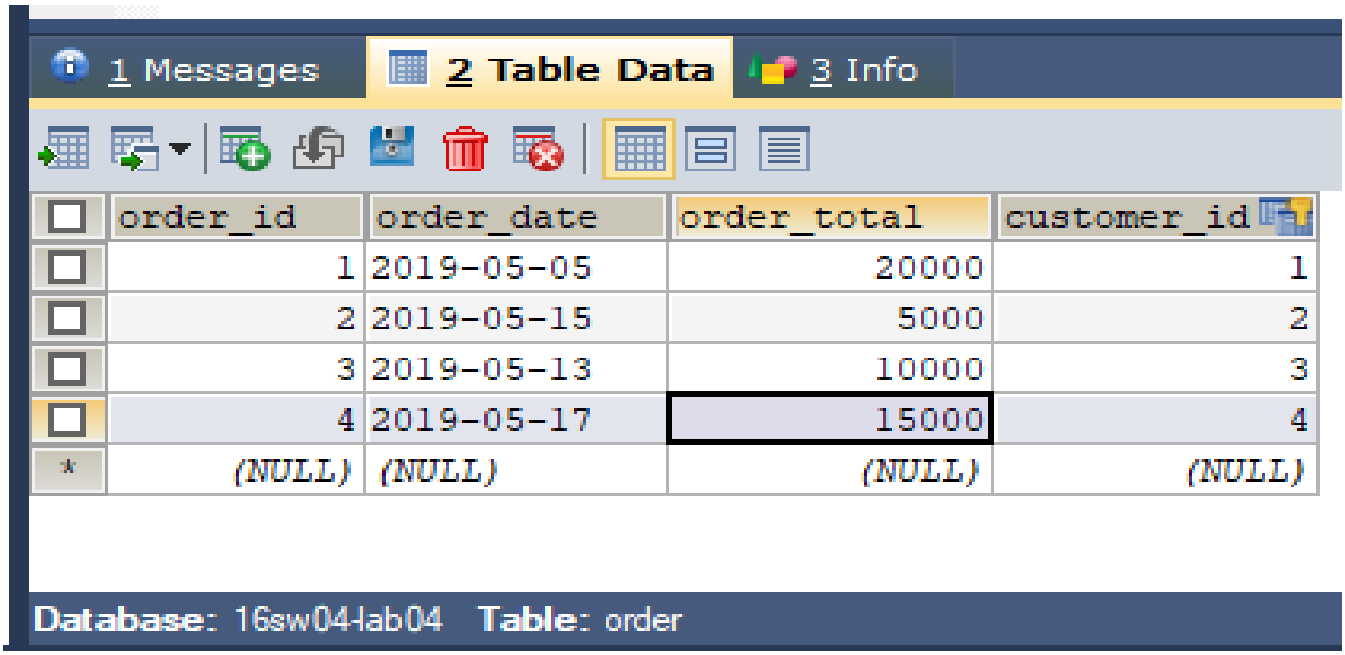
Customer Table



Expenditure Table



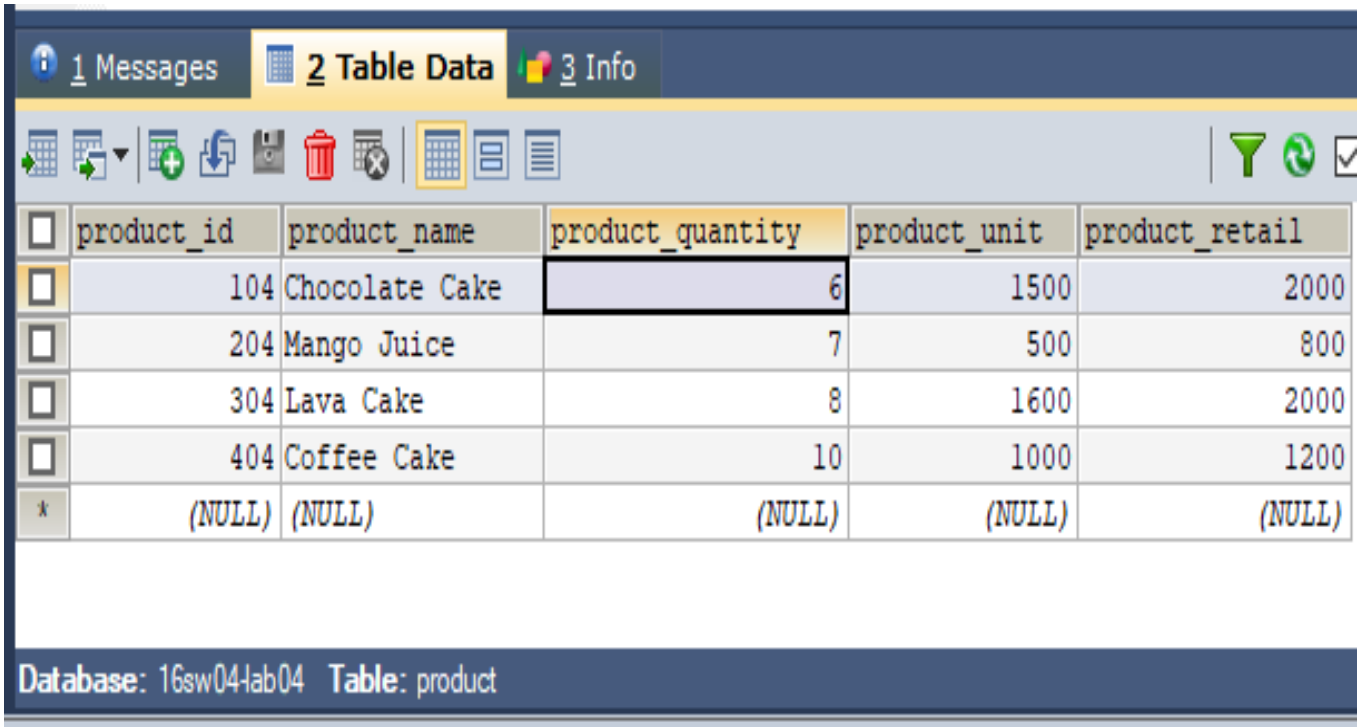
Order Table


1 Messages | 2 Table Data | 3 Info

order_id	order_date	order_total	customer_id
1	2019-05-05	20000	1
2	2019-05-15	5000	2
3	2019-05-13	10000	3
4	2019-05-17	15000	4
(NULL)	*(NULL)*	*(NULL)*	*(NULL)*

Database: 16sw04lab04 Table: order

Product Table


1 Messages | 2 Table Data | 3 Info

product_id	product_name	product_quantity	product_unit	product_retail
104	Chocolate Cake	6	1500	2000
204	Mango Juice	7	500	800
304	Lava Cake	8	1600	2000
404	Coffee Cake	10	1000	1200
(NULL)	*(NULL)*	*(NULL)*	*(NULL)*	*(NULL)*

Database: 16sw04lab04 Table: product

Order_details Table

1 Messages | 2 Table Data | 3 Info

order_details_id	order_id	product_id	order_quantity
1	1	104	30
2	2	204	20
3	3	304	25
4	4	404	19
(NULL)	*(NULL)*	*(NULL)*	*(NULL)*

Database: 16sw04-lab04 Table: order_details

2. **Create a report table to hold all the results from queries.**

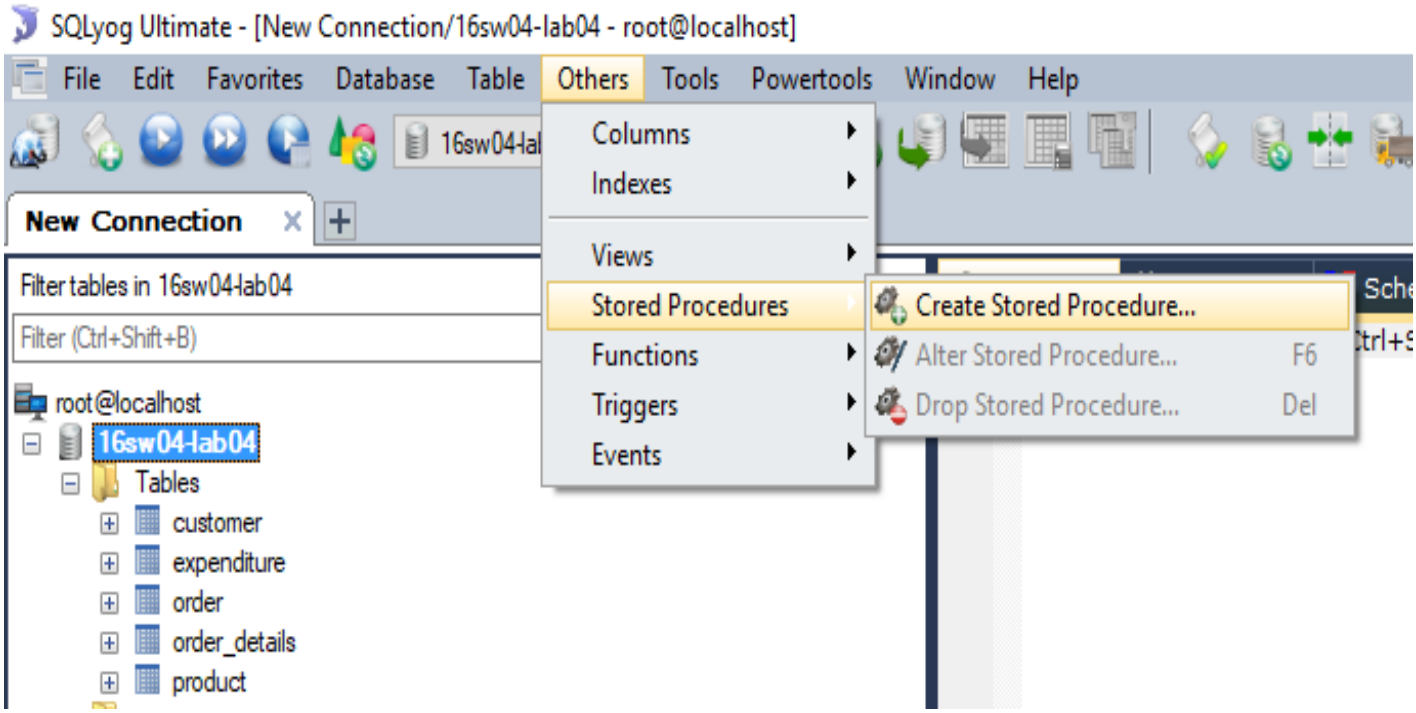
Query | History | Schema Designer | 16SW04.sql* | Query | product | Query | report

Table Name: report
Engine: InnoDB
Database: 16sw04-lab04
Character Set: latin1
Collation: latin1_swedish_ci

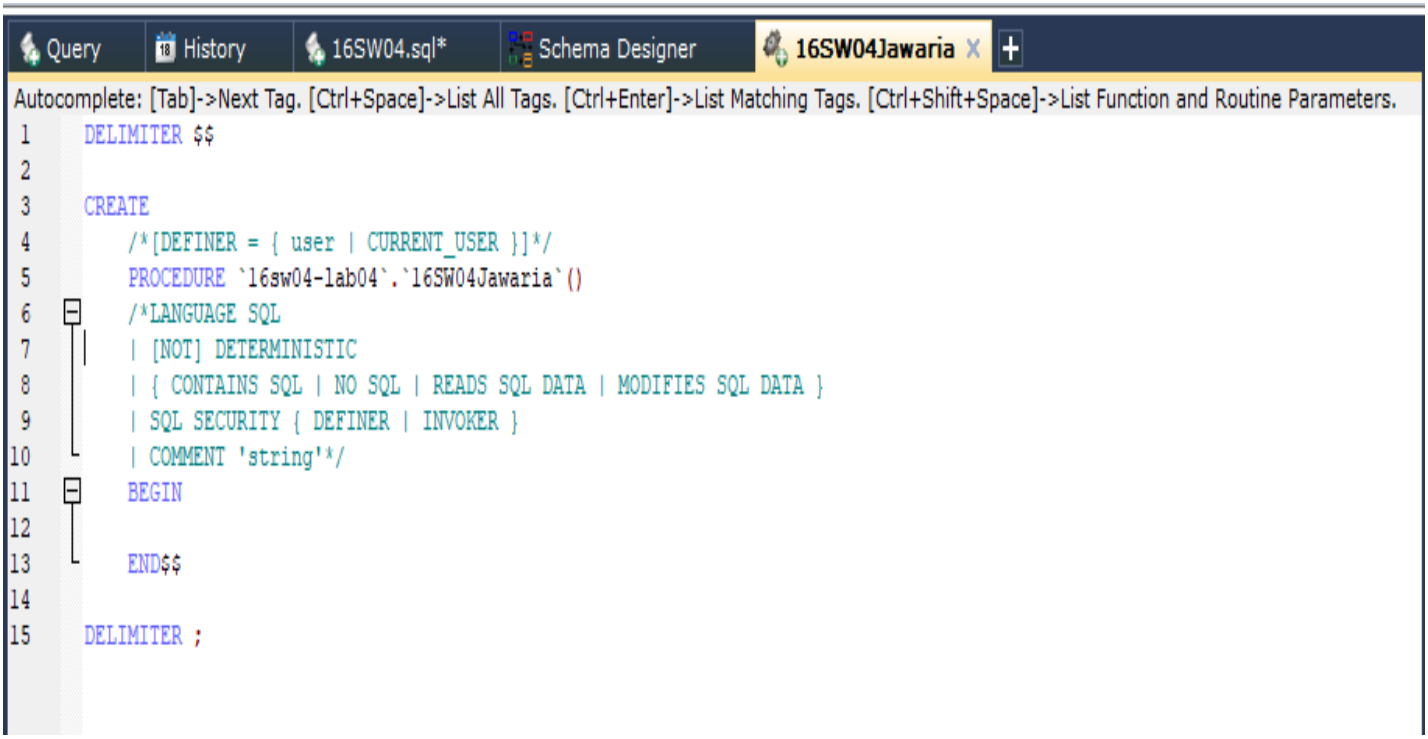
1 Columns | 2 Indexes | 3 Foreign Keys | 4 Advanced | 5 SQL Preview

Column Name	Data Type	Length	Default	PK?	Not Null?	Unsigned?	Auto Incr?	Zerofill?	Comment
Query	varchar	255							
Result	varchar	255							

3. Create Stored Procedure



4. Create a Stored Procedure named as '16SW04-Jawaria'



5. **Write following queries within the "BEGIN" and "END" section of the stored procedure:**

1. **Total sales in a month** (Use only order table).
2. **Profit/loss in a month** (Use product (to account for purchasing costs), expenditure as well as order tables).
3. **Highest selling product of the month**(By highest sold quantity)
4. **Lowest selling product of the month**(By lowest sold quantity)

Query | History | Schema Designer | 16SW04.sql* | Query | product | Query | report | Query

Autocomplete: [Tab]->Next Tag. [Ctrl+Space]->List All Tags. [Ctrl+Enter]->List Matching Tags. [Ctrl+Shift+Space]->List Function and Routine Parameters.

```
1   DELIMITER $$
2   DROP PROCEDURE IF EXISTS `16SW04Jawaria`$$  CREATE
3       /*[DEFINER = { user | CURRENT_USER }]*/
4       PROCEDURE `16sw04-lab04`.`16SW04Jawaria`()
5       /*LANGUAGE SQL
6       | [NOT] DETERMINISTIC
7       | { CONTAINS SQL | NO SQL | READS SQL DATA | MODIFIES SQL DATA }
8       | SQL SECURITY { DEFINER | INVOKER }
9       | COMMENT 'string'*/
10      BEGIN
11  SELECT @productexp:=SUM(product_unit*product_quantity) FROM product;
12  SELECT @expenditure:=SUM(exp_amount) FROM expenditure WHERE exp_date BETWEEN '2019-05-01' AND '2019-05-18';
13  SELECT @totalExp:=SUM(@productexp+@expenditure);
14
15  /*1. Total sales in a month (Use only order table)16SW04 */
16  SELECT @totalsales:=SUM(order_total) FROM `order` WHERE `order_date` LIKE '2019-05%';
17  INSERT INTO report(QUERY, Result) VALUES ('TOTAL SALES',@totalsales);
18
19  /*2. Profit/loss in a month (Use product (to account for purchasing costs), expenditure as well as order tables). 16SW04 */
20  SELECT @profit:=@totalsales-@totalExp;
21  INSERT INTO report(QUERY, Result) VALUES ('PROFIT/LOSS',@profit);
22
23  /*3. Highest selling product of the month(By highest sold quantity)16SW04 */
24  SELECT @high_sale_product:=product.product_name FROM product product INNER JOIN order_details order_details ON
25  product.product_id=(SELECT order_details.product_id WHERE order_details.order_quantity=
26  (SELECT  MAX(order_details.order_quantity) FROM order_details order_details));
27  INSERT INTO report(QUERY, Result) VALUES ('HIGHEST SELLING PRODUCT',@high_sale_product);
28
29  /*4. Lowest selling product of the month(By lowest sold quantity) 16SW04*/
30   SELECT @low_sale_product:=product.product_name FROM product product INNER JOIN order_details order_details ON
31  product.product_id=(SELECT order_details.product_id WHERE order_details.order_quantity=
32  (SELECT  MIN(order_details.order_quantity)
33  FROM order_details order_details));
34  INSERT INTO report(QUERY, Result) VALUES ('LOWEST SELLING PRODUCT',@low_sale_product);
35  SELECT * FROM report;
36     END$$  DELIMITER ;
```

6. **Execute the procedure**

Query | History | Schema Designer | 16SW04.sql* | Query | product | Query | report

Autocomplete: [Tab]->Next Tag. [Ctrl+Space]->List All Tags. [Ctrl+Enter]->List Matching Tags. [Ctrl+Shift+Space]->List Function and Routine Par

```
1   DELIMITER $$
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3   CREATE
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18  INSERT INTO report(QUERY, Result) VALUES ('TOTAL SALES',@totalsales);
19
```

1 Messages | 2 Table Data | 3 Info

```
2 queries executed, 2 success, 0 errors, 0 warnings

Query: drop procedure if exists `16SW04Jawaria`

0 row(s) affected

Execution Time : 0.011 sec
Transfer Time  : 1.576 sec
Total Time     : 1.587 sec
------------------------------------------------

Query: CREATE PROCEDURE `16sw04-lab04`.`16SW04Jawaria`() BEGIN SELECT @productexp:=SUM(product_unit*produ
SEL...
```

All

7. **Write "CALL 16SW04Jawaria()" syntax to execute all the statements together.**