

MySQL PL

Exercise 1

1. Write a program that computes the perimeter and the area of a rectangle. Define your own values for the length and width. (Assuming that L and W are the length and width of the rectangle, $\text{Perimeter} = 2 \times (L + W)$ and $\text{Area} = L \times W$.)

Answer÷

```
mysql> DELIMITER //
mysql> CREATE PROCEDURE calc_rectangle()
-> BEGIN
->   DECLARE L INT DEFAULT 10;
->   DECLARE W INT DEFAULT 5;
->   DECLARE perimeter INT;
->   DECLARE area INT;
->
->   SET perimeter = 2 * (L + W);
->   SET area = L * W;
->
->   SELECT L AS Length, W AS Width, perimeter AS
Perimeter, area AS Area;
-> END //
```

Query OK, 0 rows affected (0.01 sec)

```
mysql> DELIMITER ;
mysql>
mysql> CALL calc_rectangle();
```

Length	Width	Perimeter	Area
10	5	30	50

1 row in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

2. Write a program that declares an integer variable called

num, assigns a value to it, and computes and inserts into the *tempp* table the value of the variable itself, its square, and its cube.

Answer÷

```
mysql> CREATE TABLE IF NOT EXISTS tempp (  
->   num INT,  
->   square INT,  
->   `cube` INT  
-> );
```

Query OK, 0 rows affected (0.03 sec)

```
mysql> DELIMITER //
```

```
mysql>
```

```
mysql> CREATE PROCEDURE insert_square_cube()  
-> BEGIN  
->   DECLARE num INT DEFAULT 4;  
->   DECLARE sq INT;  
->   DECLARE cb INT;  
->  
->   SET sq = num * num;  
->   SET cb = num * num * num;  
->  
->   INSERT INTO tempp VALUES (num, sq, cb);  
-> END //
```

```
mysql> DELIMITER ;
```

```
mysql> CALL insert_square_cube();
```

Query OK, 1 row affected (0.01 sec)

```
mysql> SELECT * FROM tempp;
```

num	square	cube
4	16	64

1 row in set (0.00 sec)

```
mysql>
```

3. Convert a temperature in Fahrenheit (F) to its equivalent in Celsius (C) and vice versa. The required formulae are:-
 $C = (F - 32) * 5 / 9$ $F = 9 / 5 * C + 32$

Answer÷

```
mysql> DELIMITER //
```

```
mysql> CREATE PROCEDURE convert_temperature()
```

```
-> BEGIN
```

```
->   DECLARE F DECIMAL(5,2) DEFAULT 98.6;
```

```
->   DECLARE C DECIMAL(5,2);
```

```
->   DECLARE newF DECIMAL(5,2);
```

```
->
```

```
->   -- Convert F to C
```

```
->   SET C = (F - 32) * 5 / 9;
```

```
->
```

```
->   -- Convert C to F
```

```
->   SET newF = (C * 9 / 5) + 32;
```

```
->
```

```
->   SELECT F AS Fahrenheit, C AS Celsius, newF AS  
Fahrenheit_Converted_Back;
```

```
-> END //
```

```
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> DELIMITER ;
```

```
mysql>
```

```
mysql> CALL convert_temperature();
```

```
+-----+-----+-----+  
| Fahrenheit | Celsius | Fahrenheit_Converted_Back |  
+-----+-----+-----+  
|      98.60 |    37.00 |                98.60 |  
+-----+-----+-----+
```

```
1 row in set (0.00 sec)
```

```
Query OK, 0 rows affected (0.01 sec)
```

4. Convert a number of inches into yards, feet, and inches.

For example, 124 inches equals 3 yards, 1 foot, and 4 inches.

Answer÷

```
mysql> DELIMITER //
```

```
mysql> CREATE PROCEDURE convert_inches()  
-> BEGIN  
->   DECLARE total_inches INT DEFAULT 124;  
->   DECLARE yards INT;  
->   DECLARE feet INT;  
->   DECLARE inches INT;  
->  
->   SET yards = total_inches DIV 36;  
->   SET feet = (total_inches MOD 36) DIV 12;  
->   SET inches = (total_inches MOD 36) MOD 12;  
->  
->   SELECT total_inches AS TotalInches, yards AS  
Yards, feet AS Feet, inches AS Inches;  
-> END //
```

Query OK, 0 rows affected (0.01 sec)

```
mysql> DELIMITER ;  
mysql>  
mysql> CALL convert_inches();
```

TotalInches	Yards	Feet	Inches
124	3	1	4

```
1 row in set (0.00 sec)
```

Query OK, 0 rows affected (0.00 sec)

5. Write a program that enables a user to input an integer. The program should then state whether the integer is evenly divisible by 5.

Answer÷

```
mysql> DELIMITER //
```

```
mysql> CREATE PROCEDURE check_divisible()
```

```

-> BEGIN
->   DECLARE num INT DEFAULT 25;
->
->   IF num MOD 5 = 0 THEN
->       SELECT CONCAT(num, ' is divisible by 5') AS
Result;
->   ELSE
->       SELECT CONCAT(num, ' is NOT divisible by 5') AS
Result;
->   END IF;
-> END //
Query OK, 0 rows affected (0.01 sec)

```

```

mysql> DELIMITER ;
mysql>
mysql> CALL check_divisible();
+-----+
| Result                |
+-----+
| 25 is divisible by 5 |
+-----+
1 row in set (0.00 sec)

```

Query OK, 0 rows affected (0.01 sec)

6. Your block should read in two real numbers and tell whether the product of the two numbers is equal to or greater than 100.

Answer÷

```

mysql> DELIMITER //
mysql> CREATE PROCEDURE check_product()
-> BEGIN
->   DECLARE a DECIMAL(6,2) DEFAULT 10.5;
->   DECLARE b DECIMAL(6,2) DEFAULT 12;
->   DECLARE product DECIMAL(10,2);
->
->   SET product = a * b;

```

```

->
-> IF product >= 100 THEN
->     SELECT CONCAT('Product is ', product, ' which
is >= 100') AS Result;
-> ELSE
->     SELECT CONCAT('Product is ', product, ' which
is < 100') AS Result;
-> END IF;
-> END //

```

Query OK, 0 rows affected (0.01 sec)

```
mysql> DELIMITER ;
```

```
mysql>
```

```
mysql> CALL check_product();
```

```

+-----+
| Result                                     |
+-----+
| Product is 126.00 which is >= 100 |
+-----+
1 row in set (0.00 sec)

```

Query OK, 0 rows affected (0.01 sec)

```
mysql>
```