

## 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,  $\text{Perimeter} = 2*(L+W)$  and  $\text{Area} = L*W$ .)

**Ans:**

delimiter //

```
mysql> create procedure RectangleCalculations(length int,width int)
```

```
-> begin
```

```
-> declare perimeter int;
```

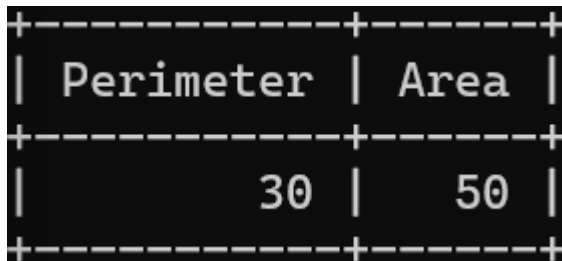
```
-> declare area int;
```

```
-> set perimeter=2*(length+width);
```

```
-> set area = length*width;
```

```
-> select perimeter as Perimeter, area AS Area;
```

```
-> end//
```



Perimeter	Area
30	50

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.

**Ans:**

```
CREATE PROCEDURE InsertNumDetails(num INT)
```

```
-> BEGIN
```

```
-> DECLARE square INT;
```

```
-> DECLARE `cube` INT;
```

```
-> SET square = POWER(num, 2);
```

```
-> SET `cube` = POWER(num, 3);
```

```
-> INSERT INTO tempp (num, square, `cube`)
```

```
-> VALUES (num, square, `cube`);
```

```

-> END//
call InsertNumDetails(10,20);
CREATE TABLE tempp (
    -> num INT,
    -> square INT,
    -> `cube` INT
    -> );
select * from tempp;

```

num	square	cube
10	100	1000

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

$F = 9/5 * C + 32$

Ans: DELIMITER //

mysql>

mysql> CREATE PROCEDURE temperature(temp FLOAT, unit CHAR(1))

```

-> BEGIN
    -> DECLARE result FLOAT;
    ->
    -> IF unit = 'C' THEN
    ->     SET result = (9.0/5.0) * temp + 32;
    -> ELSEIF unit = 'F' THEN
    ->     SET result = (temp - 32) * (5.0/9.0);
    -> ELSE
    ->     SET result = NULL;
    -> END IF;
    ->

```

-> SELECT result AS converted\_temperature;

-> END//

converted_temperature
212

4. Convert a number of inches into yards, feet, and inches. For example, 124 inches equals 3 yards, 1 foot, and 4 inches.

Ans: create procedure inch\_conversion(total\_inch int)

-> begin

-> declare yards int;

-> declare foots int;

-> declare inches int;

-> set yards = total\_inch/36;

-> set foots = (total\_inch mod 36)/12;

-> set inches = total\_inch mod 12;

-> select yards,foot,feet,inches;

-> end//

yards	foot	feet	inches
3	1		4

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.

Ans: create procedure divisible5(input int)

-> begin

```

-> declare result varchar(50);
-> if input mod 5 = 0 then
-> set result='Divisible by 5';
-> else
-> set result='Not Divisible by 5';
-> end if;
-> select result;
-> end//

```

```

+-----+
| result |
+-----+
| Divisible by 5 |
+-----+

```

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.

Ans: DELIMITER //

```
mysql> create procedure greaterthan(num1 int, num2 int)
```

```

-> begin
-> declare result varchar(50);
-> declare mult int;
-> set mult = num1 * num2;
-> if mult < 100 then
-> set result= 'Less than 100';
-> elseif mult=100 then
-> set result= 'equal to 100';
-> else
-> set result='greater than 100';
-> end if;
-> select num1,num2,mult,result;

```

-> end//

num1	num2	mult	result
20	6	120	greater than 100

num1	num2	mult	result
20	5	100	equal to 100

num1	num2	mult	result
20	2	40	Less than 100