1.

```
mysql> CREATE DATABASE PL7;
Query OK, 1 row affected (0.07 sec)
mysql> use PL7;
Database changed
```

2.

```
mysql> DELIMITER //
mysql> CREATE PROCEDURE Create_Table(IN table_name VARCHAR(50))
    -> BEGIN
    ->     SET @query = CONCAT('CREATE TABLE ', table_name, ' (
    '>         D_ID INT PRIMARY KEY AUTO_INCREMENT,
    '>         Dept_name VARCHAR(30) NOT NULL,
    '>         Location VARCHAR(30),
    '>         Budget DECIMAL(12,2),
    '>         Manager_ID INT,
    '>         Creation_year INT
    '>     );');
    ->     PREPARE stmt FROM @query;
    ->     EXECUTE stmt;
    ->     DEALLOCATE PREPARE stmt;
    -> END //
Query OK, 0 rows affected (0.07 sec)

mysql> DELIMITER ;
mysql> CALL Create_Table('Management');
Query OK, 0 rows affected (0.14 sec)

mysql> desc management;
+---------------+---------------+------+-----+---------+----------------+
| Field         | Type          | Null | Key | Default | Extra          |
+---------------+---------------+------+-----+---------+----------------+
| D_ID          | int(11)       | NO   | PRI | NULL    | auto_increment |
| Dept_name     | varchar(30)   | NO   |     | NULL    |                |
| Location      | varchar(30)   | YES  |     | NULL    |                |
| Budget        | decimal(12,2) | YES  |     | NULL    |                |
| Manager_ID    | int(11)       | YES  |     | NULL    |                |
| Creation_year | int(11)       | YES  |     | NULL    |                |
+---------------+---------------+------+-----+---------+----------------+
6 rows in set (0.06 sec)
```

3.

```
mysql> DELIMITER //
mysql> CREATE PROCEDURE Insert_Record()
    -> BEGIN
    ->     INSERT INTO Management (D_ID, Dept_name, Location, Budget, Manager_ID, Creation_year)
    ->     VALUES
    ->     (5001, 'HR', 'Bangalore', 450000, 101, 2015),
    ->     (5002, 'IT', 'Delhi', 1200000, 102, 2010),
    ->     (5003, 'Finance', 'Chennai', 700000, 103, 2012),
    ->     (5004, 'Marketing', 'Mumbai', 950000, 104, 2018),
    ->     (5005, 'Sales', 'Kolkata', 300000, 105, 2020);
    -> END //
Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;
mysql> CALL Insert_Record();
Query OK, 5 rows affected (0.07 sec)
```

4.

```
mysql> DELIMITER //
mysql> CREATE PROCEDURE Disp_Table(IN table_name VARCHAR(50))
    -> BEGIN
    ->      SET @query = CONCAT('SELECT * FROM ', table_name);
    ->      PREPARE stmt FROM @query;
    ->      EXECUTE stmt;
    ->      DEALLOCATE PREPARE stmt;
    -> END //
Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;
mysql>
mysql> CALL Disp_Table('Management');
+-------+-----------+-----------+------------+------------+---------------+
| D_ID  | Dept_name | Location  | Budget     | Manager_ID | Creation_year |
+-------+-----------+-----------+------------+------------+---------------+
| 5001  | HR        | Bangalore |  450000.00 |        101 |          2015 |
| 5002  | IT        | Delhi     | 1200000.00 |        102 |          2010 |
| 5003  | Finance   | Chennai   |  700000.00 |        103 |          2012 |
| 5004  | Marketing | Mumbai    |  950000.00 |        104 |          2018 |
| 5005  | Sales     | Kolkata   |  300000.00 |        105 |          2020 |
+-------+-----------+-----------+------------+------------+---------------+
5 rows in set (0.00 sec)

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

5.

```
mysql> DELIMITER //
mysql> CREATE FUNCTION CalculateAnnualBudget(monthly_budget DECIMAL(12,2))
    -> RETURNS DECIMAL(12,2)
    -> DETERMINISTIC
    -> BEGIN
    ->      RETURN monthly_budget * 12;
    -> END //
Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;
mysql>
mysql> SELECT D_ID, Dept_name, CalculateAnnualBudget(Budget) AS Annual_Budget FROM Management
    -> ;
+-------+-----------+---------------+
| D_ID  | Dept_name | Annual_Budget |
+-------+-----------+---------------+
| 5001  | HR        |    5400000.00 |
| 5002  | IT        |   14400000.00 |
| 5003  | Finance   |    8400000.00 |
| 5004  | Marketing |   11400000.00 |
| 5005  | Sales     |    3600000.00 |
+-------+-----------+---------------+
5 rows in set (0.00 sec)
```

6.

```
mysql> DELIMITER //
mysql> CREATE FUNCTION Dept_Category(dept_budget DECIMAL(12,2))
    -> RETURNS VARCHAR(20)
    -> DETERMINISTIC
    -> BEGIN
    ->     RETURN CASE
    ->             WHEN dept_budget < 500000 THEN 'Small Department'
    ->             WHEN dept_budget BETWEEN 500000 AND 1000000 THEN 'Medium Department'
    ->             ELSE 'Large Department'
    ->     END;
    -> END //
Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;
mysql>
mysql> SELECT D_ID, Dept_name, Dept_Category(Budget) AS Department_Category FROM Management;
+------+-----------+---------------------+
| D_ID | Dept_name | Department_Category |
+------+-----------+---------------------+
| 5001 | HR        | Small Department    |
| 5002 | IT        | Large Department    |
| 5003 | Finance   | Medium Department   |
| 5004 | Marketing | Medium Department   |
| 5005 | Sales     | Small Department    |
+------+-----------+---------------------+
5 rows in set (0.00 sec)
```

7.

```
mysql> DELIMITER //
mysql> CREATE FUNCTION CalculateBonus(dept_budget DECIMAL(12,2))
    -> RETURNS DECIMAL(12,2)
    -> DETERMINISTIC
    -> BEGIN
    ->     RETURN CASE
    ->             WHEN dept_budget < 500000 THEN dept_budget * 0.05
    ->             WHEN dept_budget BETWEEN 500000 AND 1000000 THEN dept_budget * 0.07
    ->             ELSE dept_budget * 0.10
    ->     END;
    -> END //
Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;
mysql>
mysql> SELECT D_ID, Dept_name, CalculateBonus(Budget) AS Bonus FROM Management;
+------+-----------+-----------+
| D_ID | Dept_name | Bonus     |
+------+-----------+-----------+
| 5001 | HR        |  22500.00 |
| 5002 | IT        | 120000.00 |
| 5003 | Finance   |  49000.00 |
| 5004 | Marketing |  66500.00 |
| 5005 | Sales     |  15000.00 |
+------+-----------+-----------+
5 rows in set (0.00 sec)
```

8.

```
mysql> DELIMITER //
mysql> CREATE FUNCTION YearsSinceEstablishment(creation_year INT)
    -> RETURNS INT
    -> DETERMINISTIC
    -> BEGIN
    ->    RETURN YEAR(CURDATE()) - creation_year;
    -> END //
Query OK, 0 rows affected (0.00 sec)

mysql> DELIMITER ;
mysql>
mysql> SELECT D_ID, Dept_name, YearsSinceEstablishment(Creation_year) AS Years_Since_Establishment FROM Management;
+------+-----------+---------------------------+
| D_ID | Dept_name | Years_Since_Establishment |
+------+-----------+---------------------------+
| 5001 | HR        |                        10 |
| 5002 | IT        |                        15 |
| 5003 | Finance   |                        13 |
| 5004 | Marketing |                         7 |
| 5005 | Sales     |                         5 |
+------+-----------+---------------------------+
5 rows in set (0.00 sec)
```