4. Create a row level trigger for the customers table that would fire for INSERT or UPDATE or DELETE operations performed on the CUSTOMERS table. This trigger will display the salary difference between the old & new Salary.
CUSTOMERS(ID,NAME,AGE,ADDRESS,SALARY)

Solution:

```
DELIMITER //

CREATE TRIGGER trg_salary_diff_insert
AFTER INSERT ON customers
FOR EACH ROW
BEGIN
    DECLARE old_sal DECIMAL(10,2);
    DECLARE new_sal DECIMAL(10,2);
    DECLARE sal_diff DECIMAL(10,2);
    DECLARE op_type VARCHAR(10);
    DECLARE msg VARCHAR(255);


    IF (NEW.ID IS NOT NULL AND OLD.ID IS NULL) THEN
        SET old_sal = 0;
        SET new_sal = NEW.SALARY;
        SET op_type = 'INSERT';
;
    END IF;

    -- Calculate salary difference
    SET sal_diff = new_sal - old_sal;

    -- Create custom message
    SET msg = CONCAT('Operation: ', op_type,
            ', Old Salary: ', old_sal,
            ', New Salary: ', new_sal,
            ', Difference: ', sal_diff);

    -- Display using SIGNAL
    SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = msg;
```

```
END //

DELIMITER ;




DELIMITER //

CREATE TRIGGER trg_salary_diff_update
AFTER  UPDATE ON customers
FOR EACH ROW
BEGIN
    DECLARE old_sal DECIMAL(10,2);
    DECLARE new_sal DECIMAL(10,2);
    DECLARE sal_diff DECIMAL(10,2);
    DECLARE op_type VARCHAR(10);
    DECLARE msg VARCHAR(255);


    IF (NEW.ID IS NOT NULL AND OLD.ID IS NULL) THEN
        SET old_sal = 0;
        SET new_sal = NEW.SALARY;
        SET op_type = 'INSERT';

    ELSE
        SET old_sal = OLD.SALARY;
        SET new_sal = NEW.SALARY;
        SET op_type = 'UPDATE';
    END IF;

    -- Calculate salary difference
    SET sal_diff = new_sal - old_sal;

    -- Create custom message
    SET msg = CONCAT('Operation: ', op_type,
                ', Old Salary: ', old_sal,
                ', New Salary: ', new_sal,
                ', Difference: ', sal_diff);

    -- Display using SIGNAL
    SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = msg;
```

```
END //


DELIMITER //

CREATE TRIGGER trg_salary_diff_delete
AFTER DELETE ON customers
FOR EACH ROW
BEGIN
   DECLARE old_sal DECIMAL(10,2);
   DECLARE new_sal DECIMAL(10,2);
   DECLARE sal_diff DECIMAL(10,2);
   DECLARE op_type VARCHAR(10);
   DECLARE msg VARCHAR(255);


  IF (OLD.ID IS NOT NULL AND NEW.ID IS NULL) THEN
     SET old_sal = OLD.SALARY;
     SET new_sal = 0;
     SET op_type = 'DELETE';
   END IF;

  -- Calculate salary difference
  SET sal_diff = new_sal - old_sal;

  -- Create custom message
  SET msg = CONCAT('Operation: ', op_type,
            ', Old Salary: ', old_sal,
            ', New Salary: ', new_sal,
            ', Difference: ', sal_diff);

  -- Display using SIGNAL
  SIGNAL SQLSTATE '45000'
     SET MESSAGE_TEXT = msg;

END //
```

```
DML:
INSERT INTO customers (ID, NAME, AGE, ADDRESS, SALARY)
VALUES (1, 'John Doe', 30, 'New York', 50000.00);


UPDATE customers
SET SALARY = 55000.00
WHERE ID = 1;


DELETE FROM customers
WHERE ID = 1;
```