

ANS 1a

```
DELIMITER//
CREATE TRIGGER TEST
AFTER UPDATE ON STUDENT_MAST
FOR EACH ROW
BEGIN
INSERT INTO STU_INFO VALUES(OLD.NAME, OLD.ST_CLASS, NEW.ST_CLASS);
END//
```

```
UPDATE STUDENT_MAST SET ST_CLASS = ST_CLASS + 1;
```

```
SELECT * FROM STU_INFO;
```

```
+-----+-----+-----+
| NAME      | OLD_CLASS | NEW_CLASS |
+-----+-----+-----+
| Steven King   |      8 |      9 |
| Neena Kochhar |      9 |     10 |
| Lex De Haan   |      9 |     10 |
| Alexander Hunold |     11 |     12 |
+-----+-----+-----+
```

ANS 1b

```
DELIMITER //
CREATE TRIGGER STUDENT_DEL
AFTER DELETE ON STUDENT_MAST
FOR EACH ROW
BEGIN
INSERT INTO stu_info VALUES(OLD.NAME, OLD.ST_CLASS, -1);
END//
```

```
DELETE FROM STUDENT_MAST WHERE STUDENT_ID = 1;
```

```
SELECT * FROM STU_INFO;
```

```
+-----+-----+-----+
| NAME      | OLD_CLASS | NEW_CLASS |
+-----+-----+-----+
| Steven King   |      8 |      9 |
```

Neena Kochhar	9	10
Lex De Haan	9	10
Alexander Hunold	11	12
Steven King	9	-1
+-----+	+-----+	+-----+

ANS 2a

```

CREATE TRIGGER ONE
BEFORE UPDATE ON PPL
FOR EACH ROW
BEGIN
IF FLOOR(NEW.ACC_NO/100) > FLOOR(OLD.ACC_NO/100) THEN
SET NEW.CHANGES = 'PROMOTED';
ELSEIF FLOOR(NEW.ACC_NO/100) < FLOOR(OLD.ACC_NO/100) THEN
SET NEW.CHANGES = 'DEMOTED';
ELSEIF FLOOR(NEW.ACC_NO/100) = FLOOR(OLD.ACC_NO/100) THEN
SET NEW.CHANGES = 'NONE';
END IF;
IF NEW.ACC_NO % 10 = 0 THEN
SET NEW.PLACE = 'DEL';
ELSEIF NEW.ACC_NO % 10 = 1 THEN
SET NEW.PLACE = 'MUM';
ELSEIF NEW.ACC_NO % 10 = 2 THEN
SET NEW.PLACE = 'BAN';
ELSEIF NEW.ACC_NO % 10 = 3 THEN
SET NEW.PLACE = 'GOA';
ELSEIF NEW.ACC_NO % 10 = 4 THEN
SET NEW.PLACE = 'KOL';
ELSEIF NEW.ACC_NO % 10 = 5 THEN
SET NEW.PLACE = 'JAI';
ELSEIF NEW.ACC_NO % 10 = 6 THEN
SET NEW.PLACE = 'KER';
ELSEIF NEW.ACC_NO % 10 = 7 THEN
SET NEW.PLACE = 'KAR';
ELSEIF NEW.ACC_NO % 10 = 8 THEN
SET NEW.PLACE = 'TN';
ELSEIF NEW.ACC_NO % 10 = 9 THEN
SET NEW.PLACE = 'GUJ';
END IF;
IF FLOOR(NEW.ACC_NO/100) = 21 THEN

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SET NEW.POST = 'DRIVER';
ELSEIF FLOOR(NEW.ACC_NO/100) = 22 THEN
SET NEW.POST = 'PEON';
ELSEIF FLOOR(NEW.ACC_NO/100) = 23 THEN
SET NEW.POST = 'CASHIER';
ELSEIF FLOOR(NEW.ACC_NO/100) = 24 THEN
SET NEW.POST = 'BANKER';
ELSEIF FLOOR(NEW.ACC_NO/100) = 25 THEN
SET NEW.POST = 'MANAGER';
ELSEIF FLOOR(NEW.ACC_NO/100) = 26 THEN
SET NEW.POST = 'INVESTOR';
END IF;
END //

```

```

SELECT * FROM PPL; //

```

```

+---+-----+-----+-----+-----+-----+
| ID | NAME  | PLACE | ACC_NO | POST  | CHANGES |
+---+-----+-----+-----+-----+-----+
| 1 | RAJU  | GOA   | 2203  | PEON  | PROMOTED |
| 2 | RAMU  | TN    | 2308  | CASHIER | PROMOTED |
| 3 | MEENA | KAR   | 2407  | BANKER | PROMOTED |
| 4 | BUPPY | DEL   | 2400  | BANKER | NONE     |
| 5 | JOHNNY | DEL  | 2500  | MANAGER | NONE     |
| 6 | AMBANI | GUJ   | 2609  | INVESTOR | NONE     |
| 7 | TATA  | BAN   | 2502  | MANAGER | DEMOTED  |
| 8 | SINHA | GUJ   | 2409  | BANKER | DEMOTED  |
| 9 | GUPTA | KER   | 2306  | CASHIER | DEMOTED  |
+---+-----+-----+-----+-----+-----+

```

ANS 2b

```

CREATE TRIGGER TWO
AFTER UPDATE ON PPL
FOR EACH ROW
BEGIN
IF NEW.CHANGES = 'PROMOTED' AND NEW.ACC_NO % 10 < OLD.ACC_NO % 10 THEN
INSERT INTO AUDIT VALUES(OLD.NAME, OLD.ACC_NO, NEW.ACC_NO, OLD.POST,
NEW.POST, 'PHODA');
ELSEIF NEW.CHANGES = 'PROMOTED' AND NEW.ACC_NO % 10 = OLD.ACC_NO % 10
THEN

```

```

INSERT INTO AUDIT VALUES(OLD.NAME, OLD.ACC_NO, NEW.ACC_NO, OLD.POST,
NEW.POST, 'SAHI');
ELSEIF NEW.CHANGES = 'PROMOTED' AND NEW.ACC_NO % 10 > OLD.ACC_NO % 10
THEN
INSERT INTO AUDIT VALUES(OLD.NAME, OLD.ACC_NO, NEW.ACC_NO, OLD.POST,
NEW.POST, 'PAISE TOH AAYE');
ELSEIF NEW.CHANGES = 'NONE' AND NEW.ACC_NO % 10 < OLD.ACC_NO % 10 THEN
INSERT INTO AUDIT VALUES(OLD.NAME, OLD.ACC_NO, NEW.ACC_NO, OLD.POST,
NEW.POST, 'JAGAH TOH BETTER HAI');
ELSEIF NEW.CHANGES = 'NONE' AND NEW.ACC_NO % 10 = OLD.ACC_NO % 10 THEN
INSERT INTO AUDIT VALUES(OLD.NAME, OLD.ACC_NO, NEW.ACC_NO, OLD.POST,
NEW.POST, 'NEXT TIME BRO');
ELSEIF NEW.CHANGES = 'NONE' AND NEW.ACC_NO % 10 > OLD.ACC_NO % 10 THEN
INSERT INTO AUDIT VALUES(OLD.NAME, OLD.ACC_NO, NEW.ACC_NO, OLD.POST,
NEW.POST, 'REH GAYE');
ELSEIF NEW.CHANGES = 'DEMOTED' AND NEW.ACC_NO % 10 < OLD.ACC_NO % 10
THEN
INSERT INTO AUDIT VALUES(OLD.NAME, OLD.ACC_NO, NEW.ACC_NO, OLD.POST,
NEW.POST, 'KOI NA HOTA HAI');
ELSEIF NEW.CHANGES = 'DEMOTED' AND NEW.ACC_NO % 10 = OLD.ACC_NO % 10
THEN
INSERT INTO AUDIT VALUES(OLD.NAME, OLD.ACC_NO, NEW.ACC_NO, OLD.POST,
NEW.POST, 'GHAR KA KHAANA TOH HAI');
ELSEIF NEW.CHANGES = 'DEMOTED' AND NEW.ACC_NO % 10 > OLD.ACC_NO % 10
THEN
INSERT INTO AUDIT VALUES(OLD.NAME, OLD.ACC_NO, NEW.ACC_NO, OLD.POST,
NEW.POST, 'DUA ME YAAD RAKHNA');
END IF;
END//

```

```

SELECT * FROM AUDIT;//

```

NAME	OLD_ACC_NO	NEW_ACC_NO	OLD_POST	NEW_POST	REMARKS
RAJU	2105	2203	DRIVER	PEON	PHODA
RAMU	2208	2308	PEON	CASHIER	SAHI
MEENA	2302	2407	CASHIER	BANKER	PAISE TOH AAYE
BUPPY	2401	2400	BANKER	BANKER	JAGAH TOH BETTER HAI
JOHNNY	2500	2500	MANAGER	MANAGER	NEXT TIME BRO
AMBANI	2607	2609	INVESTOR	INVESTOR	REH GAYE
TATA	2604	2502	INVESTOR	MANAGER	KOI NA HOTA HAI

SINHA	2508	2409	MANAGER	BANKER	DUA ME YAAD RAKHNA
GUPTA	2406	2306	BANKER	CASHIER	GHAR KA KHAANA TOH HAI

ANS 3

```

DELIMITER //
CREATE PROCEDURE PRINT(IN X INT)
BEGIN
    DECLARE Y INT;
    DECLARE TEMP INT;
    DECLARE STR VARCHAR(255);
    SET Y = 1;
    SET TEMP = 1;
    SET STR = '';
    WHILE Y <= X DO
        SET STR = CONCAT(STR, TEMP, ',');
        SET Y = Y + 1;
        IF Y % 2 = 0 THEN
            SET TEMP = TEMP + 1;
        ELSE
            SET TEMP = (TEMP-1) * 2;
        END IF;
    END WHILE;
    SELECT STR;
END//

```

TO CHECK

```

CALL PRINT(12);//
+-----+
| STR          |
+-----+
| 1,2,2,3,4,5,8,9,16,17,32,33, |
+-----+

```