**CONSTRAINTS:**

-- Indexes for table `class`

ALTER TABLE `class`

ADD KEY `TRAIN\_NO` (`TRAIN\_NO`);

-- Indexes for table `fare`

ALTER TABLE `fare`

ADD KEY `TRAIN\_NO` (`TRAIN\_NO`);

-- Indexes for table `payment`

ALTER TABLE `payment`

ADD PRIMARY KEY (`RECEIPT\_NO`),

ADD KEY `NAME` (`NAME`);

-- Indexes for table `station`

ALTER TABLE `station`

ADD PRIMARY KEY (`STATION\_ID`);

-- Indexes for table `ticket`

ALTER TABLE `ticket`

ADD KEY `TRAIN\_NO` (`TRAIN\_NO`)

-- Indexes for table `train`

ALTER TABLE `train`

ADD PRIMARY KEY (`TRAIN\_NO`),

ADD KEY `TRAIN\_START\_ID` (`START\_STATION`) USING BTREE,

ADD KEY `TRAIN\_STOP\_ID` (`STOP\_STATION`) USING BTREE;

-- Indexes for table `user`

ALTER TABLE `user`

ADD PRIMARY KEY (`USER\_NAME`),

ADD UNIQUE KEY `AADHAAR\_NO` (`AADHAAR\_NO`);

-- Constraints for dumped tables

-- Constraints for table `train`

ALTER TABLE `train`

ADD CONSTRAINT `F\_TSTARTSTATION` FOREIGN KEY (`START\_STATION`) REFERENCES `station` (`STATION\_ID`) ON DELETE CASCADE,

ADD CONSTRAINT `F\_TSTOPSTATION` FOREIGN KEY (`STOP\_STATION`) REFERENCES `station` (`STATION\_ID`) ON DELETE CASCADE;

COMMIT;

**TRIGGERS:**

**1)**-- Triggers `ticket`

DELIMITER $$

CREATE TRIGGER `F\_trigger\_seats` BEFORE DELETE ON `ticket` FOR EACH ROW BEGIN

IF OLD.CLASS='GENERAL' THEN

UPDATE CLASS SET GENERAL=GENERAL+1 WHERE TRAIN\_NO=OLD.TRAIN\_NO AND DATE=OLD.DATE;

END IF;

IF OLD.CLASS='SLEEPER' THEN

UPDATE CLASS SET SLEEPER=SLEEPER+1 WHERE TRAIN\_NO=OLD.TRAIN\_NO AND DATE=OLD.DATE;

END IF;

IF OLD.CLASS='CHAIR\_CAR' THEN

UPDATE CLASS SET CHAIR\_CAR=CHAIR\_CAR+1 WHERE TRAIN\_NO=OLD.TRAIN\_NO AND DATE=OLD.DATE;

END IF;

IF OLD.CLASS='AC\_1' THEN

UPDATE CLASS SET AC\_1=AC\_1+1 WHERE TRAIN\_NO=OLD.TRAIN\_NO AND DATE=OLD.DATE;

END IF;

IF OLD.CLASS='AC\_2' THEN

UPDATE CLASS SET AC\_2=AC\_2+1 WHERE TRAIN\_NO=OLD.TRAIN\_NO AND DATE=OLD.DATE;

END IF;

END

$$

DELIMITER ;

**2)**-- Triggers `class`

DELIMITER $$

CREATE TRIGGER `F\_SEATS` BEFORE UPDATE ON `class` FOR EACH ROW BEGIN

DECLARE S\_DEL CONDITION FOR SQLSTATE '45007';

IF NEW.GENERAL<0 THEN

SIGNAL S\_DEL

SET MESSAGE\_TEXT='SEATS\_EXCEEDED';

END IF;

IF NEW.SLEEPER<0 THEN

SIGNAL S\_DEL

SET MESSAGE\_TEXT='SEATS\_EXCEEDED';

END IF;

IF NEW.CHAIR\_CAR<0 THEN

SIGNAL S\_DEL

SET MESSAGE\_TEXT='SEATS\_EXCEEDED';

END IF;

IF NEW.AC\_1<0 THEN

SIGNAL S\_DEL

SET MESSAGE\_TEXT='SEATS\_EXCEEDED';

END IF;

IF NEW.AC\_2<0 THEN

SIGNAL S\_DEL

SET MESSAGE\_TEXT='SEATS\_EXCEEDED';

END IF;

END

$$

DELIMITER ;

**PROCEDURES:**

1)-- Procedure

CREATE DEFINER=`root`@`localhost` PROCEDURE `insert\_into\_ticket` (IN `TRAINNO` INT(6) UNSIGNED, IN `PNRNO` INT(10) UNSIGNED, IN `NAME` VARCHAR(30), IN `AGE` INT(2) UNSIGNED, IN `GENDER` VARCHAR(10), IN `DATEJ` DATE, IN `SOURCE` VARCHAR(30), IN `DEST` VARCHAR(30), IN `DTIME` TIME, IN `ATIME` TIME, IN `CLASS1` VARCHAR(10), IN `SEAT\_NO` INT(2) UNSIGNED, IN `FARE` INT(4) UNSIGNED) NO SQL

BEGIN

INSERT INTO TICKET VALUES(TRAINNO,PNRNO,NAME,AGE,GENDER,DATEJ,SOURCE,DEST,DTIME,ATIME,CLASS1,SEAT\_NO,FARE);

END$$

2)--Procedure

CREATE DEFINER=`root`@`localhost` PROCEDURE `update\_seats` (IN `S` INT(4) UNSIGNED, IN `TRAINNO` INT(6) UNSIGNED, IN `CLASS1` VARCHAR(15), IN `D` DATE) NO SQL

BEGIN

IF CLASS1="GENERAL" THEN

UPDATE CLASS SET GENERAL=GENERAL-S WHERE TRAIN\_NO=TRAINNO AND DATE=D;

END IF;

IF CLASS1='SLEEPER' THEN

UPDATE CLASS SET SLEEPER=SLEEPER-S WHERE TRAIN\_NO=TRAINNO AND DATE=D;

END IF;

IF CLASS1='AC\_1' THEN

UPDATE CLASS SET AC\_1=AC\_1-S WHERE TRAIN\_NO=TRAINNO AND DATE=D;

END IF;

IF CLASS1='AC\_2' THEN

UPDATE CLASS SET AC\_2=AC\_2-S WHERE TRAIN\_NO=TRAINNO AND DATE=D;

END IF;

IF CLASS1='CHAIR\_CAR' THEN

UPDATE CLASS SET CHAIR\_CAR=CHAIR\_CAR-S WHERE TRAIN\_NO=TRAINNO AND DATE=D;

END IF;

END$$

**FUNCTIONS:**

-- 1)Functions

CREATE DEFINER=`root`@`localhost` FUNCTION `get\_seat\_no` (`TRAINNO` INT(6) UNSIGNED, `DATE2` DATE, `CLASS2` VARCHAR(20)) RETURNS INT(2) UNSIGNED READS SQL DATA

BEGIN

IF CLASS2='GENERAL' THEN

RETURN (SELECT GENERAL FROM CLASS WHERE TRAIN\_NO=TRAINNO AND DATE=DATE2);

END IF;

IF CLASS2='SLEEPER' THEN

RETURN (SELECT SLEEPER FROM CLASS WHERE TRAIN\_NO=TRAINNO AND DATE=DATE2);

END IF;

IF CLASS2='Chair\_car' THEN

RETURN (SELECT CHAIR\_CAR FROM CLASS WHERE TRAIN\_NO=TRAINNO AND DATE=DATE2);

END IF;

IF CLASS2='AC\_1' THEN

RETURN (SELECT AC\_1 FROM CLASS WHERE TRAIN\_NO=TRAINNO AND DATE=DATE2);

END IF;

IF CLASS2='AC\_2' THEN

RETURN (SELECT AC\_2 FROM CLASS WHERE TRAIN\_NO=TRAINNO AND DATE=DATE2);

END IF;

IF CLASS2='AC\_3' THEN

RETURN (SELECT AC\_3 FROM CLASS WHERE TRAIN\_NO=TRAINNO AND DATE=DATE2);

END IF;

IF CLASS2='AC\_CHAIR\_CAR' THEN

RETURN (SELECT GENERAL FROM CLASS WHERE TRAIN\_NO=TRAINNO AND DATE=DATE2);

END IF;

END