Bookstore Analytical Queries (Using PostgreSQL10)

1.---DDL

```
-- ------------------------------------------------------
-- Schema OLAP_BOOKSHOP
-- ------------------------------------------------------
CREATE SCHEMA IF NOT EXISTS `OLAP_BOOKSHOP` DEFAULT CHARACTER SET
utf8 ;
USE `OLAP_BOOKSHOP` ;
-- ------------------------------------------------------
-- Table `OLAP_BOOKSHOP`.`REGION`
-- ------------------------------------------------------
CREATE TABLE IF NOT EXISTS `OLAP_BOOKSHOP`.`REGION` (
`REGION_ID` INT NOT NULL,
`REGION_NAME` VARCHAR(20) NOT NULL,
PRIMARY KEY (`REGION_ID`))
ENGINE = InnoDB;
-- ------------------------------------------------------
-- Table `OLAP_BOOKSHOP`.`SUBREGION`
-- ------------------------------------------------------
CREATE TABLE IF NOT EXISTS `OLAP_BOOKSHOP`.`SUBREGION` (
`SUBREGION_ID` INT NOT NULL,
`SUBREGION_NAME` VARCHAR(30) NOT NULL,
`REGION_ID` INT NOT NULL,
PRIMARY KEY (`SUBREGION_ID`, `REGION_ID`),
INDEX `fk_SUBREGION_REGION_idx` (`REGION_ID` ASC) VISIBLE,
CONSTRAINT `fk_SUBREGION_REGION`
FOREIGN KEY (`REGION_ID`)
REFERENCES `OLAP_BOOKSHOP`.`REGION` (`REGION_ID`)
ON DELETE NO ACTION
ON UPDATE NO ACTION)
ENGINE = InnoDB;


-- ------------------------------------------------------
-- Table `OLAP_BOOKSHOP`.`WAREHOUSE`
-- ------------------------------------------------------
CREATE TABLE IF NOT EXISTS `OLAP_BOOKSHOP`.`WAREHOUSE` (
`CODE` INT NOT NULL,
`SUBREGION_ID` INT NOT NULL,
PRIMARY KEY (`CODE`, `SUBREGION_ID`),
INDEX `fk_WAREHOUSE_SUBREGION1_idx` (`SUBREGION_ID` ASC)
VISIBLE,
CONSTRAINT `fk_WAREHOUSE_SUBREGION1`
FOREIGN KEY (`SUBREGION_ID`)
REFERENCES `OLAP_BOOKSHOP`.`SUBREGION` (`SUBREGION_ID`)
ON DELETE NO ACTION
ON UPDATE NO ACTION)
ENGINE = InnoDB;
-- ------------------------------------------------------
-- Table `OLAP_BOOKSHOP`.`BOOKS`
```

```sql
-- -------------------------------------------------------
CREATE TABLE IF NOT EXISTS `OLAP_BOOKSHOP`.`BOOKS` (
`ISBN` INT NOT NULL,
`TITLE` VARCHAR(45) NULL,
`PRICE` VARCHAR(45) NULL,
PRIMARY KEY (`ISBN`))
ENGINE = InnoDB;
-- -------------------------------------------------------
-- Table `OLAP_BOOKSHOP`.`YEAR`
-- -------------------------------------------------------
CREATE TABLE IF NOT EXISTS `OLAP_BOOKSHOP`.`YEAR` (
`YEAR_ID` INT NOT NULL,
`YEAR` YEAR(4) NULL,
PRIMARY KEY (`YEAR_ID`))
ENGINE = InnoDB;
-- -------------------------------------------------------
-- Table `OLAP_BOOKSHOP`.`MONTH`
-- -------------------------------------------------------
CREATE TABLE IF NOT EXISTS `OLAP_BOOKSHOP`.`MONTH` (
`MONTH_ID` INT NOT NULL,
`MONTH` VARCHAR(15) NULL,
`YEAR_ID` INT NOT NULL,
PRIMARY KEY (`MONTH_ID`, `YEAR_ID`),
INDEX `fk_MONTH_YEAR1_idx` (`YEAR_ID` ASC) VISIBLE,
CONSTRAINT `fk_MONTH_YEAR1`
FOREIGN KEY (`YEAR_ID`)
REFERENCES `OLAP_BOOKSHOP`.`YEAR` (`YEAR_ID`)
ON DELETE NO ACTION
ON UPDATE NO ACTION)
ENGINE = InnoDB;
-- -------------------------------------------------------
-- Table `OLAP_BOOKSHOP`.`DAY`
-- -------------------------------------------------------
CREATE TABLE IF NOT EXISTS `OLAP_BOOKSHOP`.`DAY` (
`NUM_DAY` INT NOT NULL,
`DAY_ID` VARCHAR(45) NOT NULL,
`MONTH_ID` INT NOT NULL,
PRIMARY KEY (`DAY_ID`, `MONTH_ID`),
INDEX `fk_DAY_MONTH1_idx` (`MONTH_ID` ASC) VISIBLE,
CONSTRAINT `fk_DAY_MONTH1`
FOREIGN KEY (`MONTH_ID`)
REFERENCES `OLAP_BOOKSHOP`.`MONTH` (`MONTH_ID`)
ON DELETE NO ACTION
ON UPDATE NO ACTION)
ENGINE = InnoDB;


-- -------------------------------------------------------
-- Table `OLAP_BOOKSHOP`.`FACTS_TICKET`
-- -------------------------------------------------------
CREATE TABLE IF NOT EXISTS `OLAP_BOOKSHOP`.`FACTS_TICKET` (
`SELL_BY_PRODUCT` DOUBLE NOT NULL,
```

```
`TICKET_NUMBER` INT NOT NULL,
`BOOKS_ISBN` INT NOT NULL,
`WAREHOUSE_CODE` INT NOT NULL,
`DAY_ID` VARCHAR(45) NOT NULL,
PRIMARY KEY (`SELL_BY_PRODUCT`, `BOOKS_ISBN`, `WAREHOUSE_CODE`,
`DAY_ID`),
INDEX `fk_FACTS_TICKET_BOOKS1_idx` (`BOOKS_ISBN` ASC) VISIBLE,
INDEX `fk_FACTS_TICKET_WAREHOUSE1_idx` (`WAREHOUSE_CODE` ASC)
VISIBLE,
INDEX `fk_FACTS_TICKET_DAY1_idx` (`DAY_ID` ASC) VISIBLE,
CONSTRAINT `fk_FACTS_TICKET_BOOKS1`
FOREIGN KEY (`BOOKS_ISBN`)
REFERENCES `OLAP_BOOKSHOP`.`BOOKS` (`ISBN`)
ON DELETE NO ACTION
ON UPDATE NO ACTION,
CONSTRAINT `fk_FACTS_TICKET_WAREHOUSE1`
FOREIGN KEY (`WAREHOUSE_CODE`)
REFERENCES `OLAP_BOOKSHOP`.`WAREHOUSE` (`CODE`)
ON DELETE NO ACTION
ON UPDATE NO ACTION,
CONSTRAINT `fk_FACTS_TICKET_DAY1`
FOREIGN KEY (`DAY_ID`)
REFERENCES `OLAP_BOOKSHOP`.`DAY` (`DAY_ID`)
ON DELETE NO ACTION
ON UPDATE NO ACTION)
ENGINE = InnoDB;

SET SQL_MODE=@OLD_SQL_MODE;
SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS;
SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS;
```

2.---DDL inserts

```
-- inserts region
INSERT INTO olap_bookshop.region(region_id, region_name) VALUES
(1,'america');
INSERT INTO olap_bookshop.region(region_id, region_name) VALUES
(2,'europa');
INSERT INTO olap_bookshop.region(region_id, region_name) VALUES
(3,'asia');
INSERT INTO olap_bookshop.region(region_id, region_name) VALUES
(4,'africa');
INSERT INTO olap_bookshop.region(region_id, region_name) VALUES
(5,'oceania');
-- inserts subregion
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
```

```sql
subregion_name) VALUES (1,1,'north america');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (2,1,'central america');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (3,1,'caribe');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (4,1,'south america');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (5,2,'north of europe');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (6,2,'south of europe');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (7,2,'western europe');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (8,2,'eastern europe');
NSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (9,3,'northern of asia');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (10,3,'southern asia');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (11,3,'eastern asia');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (12,3,'central asia');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (13,3,'southeast asia');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (14,4,'north africa');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (15,4,'southern africa');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (16,4,'west africa');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (17,4,'east africa');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (18,4,'central africa');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (19,5,'australia');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (20,5,'melanesia');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (21,5,'micronesia');
INSERT INTO olap_bookshop.subregion(subregion_id, region_id,
subregion_name) VALUES (22,5,'polynesia');
-- inserts time dimension
INSERT INTO olap_bookshop.year (year_id, year) VALUES (1,'2017');
commit;
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(1,1,'january');
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(2,1,'february');
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(3,1,'march');
```

```sql
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(4,1,'april');
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(5,1,'may');
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(6,1,'june');
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(7,1,'july');
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(8,1,'august');
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(9,1,'september');
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(10,1,'october');
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(11,1,'november');
INSERT INTO olap_bookshop.month (month_id, year_id, month) VALUES
(12,1,'december');
commit;
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (1,1,'sunday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (2,1,'monday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (3,1,'tuesday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (4,1,'wednesday',4);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (5,1,'thursday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (6,1,'friday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (7,1,'saturday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (8,1,'sunday',8);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (9,1,'monday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (10,1,'tuesday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (11,1,'wednesday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (12,1,'thursday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (13,1,'friday',13);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (14,1,'saturday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (15,1,'sunday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (16,1,'monday',16);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (17,1,'tuesday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (18,1,'wednesday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (19,1,'thursday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (20,1,'friday',20);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (21,1,'saturday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (22,1,'sunday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (23,1,'monday',23);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (24,1,'tuesday',24);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (25,1,'wednesday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (26,1,'thursday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (27,1,'friday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (28,1,'saturday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (29,1,'sunday',29);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (30,1,'monday',30);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (31,1,'tuesday',31);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (32,2,'wednesday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (33,2,'thursday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (34,2,'friday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (35,2,'saturday',4);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (36,2,'sunday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (37,2,'monday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (38,2,'tuesday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (39,2,'wednesday',8);
NSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (40,2,'thursday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (41,2,'friday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (42,2,'saturday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (43,2,'sunday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (44,2,'monday',13);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (45,2,'tuesday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (46,2,'wednesday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (47,2,'thursday',16);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (48,2,'friday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (49,2,'saturday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (50,2,'sunday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (51,2,'monday',20);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (52,2,'tuesday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (53,2,'wednesday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (54,2,'thursday',23);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (55,2,'friday',24);
NSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (56,2,'saturday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (57,2,'sunday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (58,2,'monday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (59,2,'tuesday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (60,3,'wednesday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (61,3,'thursday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (62,3,'friday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (63,3,'saturday',4);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (64,3,'sunday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (65,3,'monday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (66,3,'tuesday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (67,3,'wednesday',8);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (68,3,'thursday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (69,3,'friday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (70,3,'saturday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (71,3,'sunday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (72,3,'monday',13);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (73,3,'tuesday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (74,3,'wednesday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (75,3,'thursday',16);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (76,3,'friday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (77,3,'saturday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (78,3,'sunday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (79,3,'monday',20);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (80,3,'tuesday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (81,3,'wednesday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (82,3,'thursday',23);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (83,3,'friday',24);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (84,3,'saturday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (85,3,'sunday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (86,3,'monday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (87,3,'tuesday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (88,3,'wednesday',29);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (89,3,'thursday',30);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (90,3,'friday',31);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (91,4,'saturday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (92,4,'sunday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (93,4,'monday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (94,4,'tuesday',4);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (95,4,'wednesday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (96,4,'thursday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (97,4,'friday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (98,4,'saturday',8);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (99,4,'sunday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (100,4,'monday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (101,4,'tuesday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (102,4,'wednesday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (103,4,'thursday',13);
NSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (104,4,'friday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (105,4,'saturday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (106,4,'sunday',16);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (107,4,'monday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (108,4,'tuesday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (109,4,'wednesday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (110,4,'thursday',20);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (111,4,'friday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (112,4,'saturday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (113,4,'sunday',23);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (114,4,'monday',24);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (115,4,'tuesday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (116,4,'wednesday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (117,4,'thursday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (118,4,'friday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (119,4,'saturday',29);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (120,4,'sunday',30);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (121,5,'monday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (122,5,'tuesday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (123,5,'wednesday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (124,5,'thursday',4);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (125,5,'friday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (126,5,'saturday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (127,5,'sunday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (128,5,'monday',8);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (129,5,'tuesday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (130,5,'wednesday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (131,5,'thursday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (132,5,'friday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (133,5,'saturday',13);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (134,5,'sunday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (135,5,'monday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (136,5,'tuesday',16);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (137,5,'wednesday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (138,5,'thursday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (139,5,'friday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (140,5,'saturday',20);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (141,5,'sunday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (142,5,'monday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (143,5,'tuesday',23);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (144,5,'wednesday',24);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (145,5,'thursday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (146,5,'friday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (147,5,'saturday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (148,5,'sunday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (149,5,'monday',29);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (150,5,'tuesday',30);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (151,5,'wednesday',31);
NSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (152,6,'thursday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (153,6,'friday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (154,6,'saturday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (155,6,'sunday',4);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (156,6,'monday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (157,6,'tuesday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (158,6,'wednesday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (159,6,'thursday',8);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (160,6,'friday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (161,6,'saturday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (162,6,'sunday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (163,6,'monday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (164,6,'tuesday',13);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (165,6,'wednesday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (166,6,'thursday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (167,6,'friday',16);
NSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (168,6,'saturday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (169,6,'sunday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (170,6,'monday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (171,6,'tuesday',20);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (172,6,'wednesday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (173,6,'thursday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (174,6,'friday',23);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (175,6,'saturday',24);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (176,6,'sunday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (177,6,'monday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (178,6,'tuesday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (179,6,'wednesday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (180,6,'thursday',29);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (181,6,'friday',30);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (182,7,'saturday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (183,7,'sunday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (184,7,'monday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (185,7,'tuesday',4);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (186,7,'wednesday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (187,7,'thursday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (188,7,'friday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (189,7,'saturday',8);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (190,7,'sunday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (191,7,'monday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (192,7,'tuesday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (193,7,'wednesday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (194,7,'thursday',13);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (195,7,'friday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (196,7,'saturday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (197,7,'sunday',16);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (198,7,'monday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (199,7,'tuesday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (200,7,'wednesday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (201,7,'thursday',20);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (202,7,'friday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (203,7,'saturday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (204,7,'sunday',23);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (205,7,'monday',24);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (206,7,'tuesday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (207,7,'wednesday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (208,7,'thursday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (209,7,'friday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (210,7,'saturday',29);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (211,7,'sunday',30);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (212,7,'monday',31);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (213,8,'tuesday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (214,8,'wednesday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (215,8,'thursday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (216,8,'friday',4);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (217,8,'saturday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (218,8,'sunday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (219,8,'monday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (220,8,'tuesday',8);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (221,8,'wednesday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (222,8,'thursday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (223,8,'friday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (224,8,'saturday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (225,8,'sunday',13);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (226,8,'monday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (227,8,'tuesday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (228,8,'wednesday',16);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (229,8,'thursday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (230,8,'friday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (231,8,'saturday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (232,8,'sunday',20);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (233,8,'monday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (234,8,'tuesday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (235,8,'wednesday',23);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (236,8,'thursday',24);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (237,8,'friday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (238,8,'saturday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (239,8,'sunday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (240,8,'monday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (241,8,'tuesday',29);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (242,8,'wednesday',30);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (243,8,'thursday',31);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (244,9,'friday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (245,9,'saturday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (246,9,'sunday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (247,9,'monday',4);
NSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (248,9,'tuesday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (249,9,'wednesday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (250,9,'thursday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (251,9,'friday',8);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (252,9,'saturday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (253,9,'sunday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (254,9,'monday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (255,9,'tuesday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (256,9,'wednesday',13);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (257,9,'thursday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (258,9,'friday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (259,9,'saturday',16);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (260,9,'sunday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (261,9,'monday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (262,9,'tuesday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (263,9,'wednesday',20);
NSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (264,9,'thursday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (265,9,'friday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (266,9,'saturday',23);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (267,9,'sunday',24);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (268,9,'monday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (269,9,'tuesday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (270,9,'wednesday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (271,9,'thursday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (272,9,'friday',29);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (273,9,'saturday',30);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (274,10,'sunday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (275,10,'monday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (276,10,'tuesday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```
VALUES (277,10,'wednesday',4);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (278,10,'thursday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (279,10,'friday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (280,10,'saturday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (281,10,'sunday',8);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (282,10,'monday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (283,10,'tuesday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (284,10,'wednesday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (285,10,'thursday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (286,10,'friday',13);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (287,10,'saturday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (288,10,'sunday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (289,10,'monday',16);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (290,10,'tuesday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (291,10,'wednesday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (292,10,'thursday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (293,10,'friday',20);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (294,10,'saturday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (295,10,'sunday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (296,10,'monday',23);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (297,10,'tuesday',24);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (298,10,'wednesday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (299,10,'thursday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (300,10,'friday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (301,10,'saturday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (302,10,'sunday',29);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (303,10,'monday',30);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (304,10,'tuesday',31);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (305,11,'wednesday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (306,11,'thursday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (307,11,'friday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (308,11,'saturday',4);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (309,11,'sunday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (310,11,'monday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (311,11,'tuesday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (312,11,'wednesday',8);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (313,11,'thursday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (314,11,'friday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (315,11,'saturday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (316,11,'sunday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (317,11,'monday',13);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (318,11,'tuesday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (319,11,'wednesday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (320,11,'thursday',16);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (321,11,'friday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (322,11,'saturday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (323,11,'sunday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (324,11,'monday',20);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (325,11,'tuesday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (326,11,'wednesday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (327,11,'thursday',23);
NSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (328,11,'friday',24);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (329,11,'saturday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (330,11,'sunday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (331,11,'monday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (332,11,'tuesday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (333,11,'wednesday',29);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (334,11,'thursday',30);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (335,12,'friday',1);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (336,12,'saturday',2);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (337,12,'sunday',3);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (338,12,'monday',4);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (339,12,'tuesday',5);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (340,12,'wednesday',6);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (341,12,'thursday',7);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (342,12,'friday',8);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (343,12,'saturday',9);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (344,12,'sunday',10);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (345,12,'monday',11);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (346,12,'tuesday',12);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (347,12,'wednesday',13);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (348,12,'thursday',14);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (349,12,'friday',15);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (350,12,'saturday',16);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (351,12,'sunday',17);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (352,12,'monday',18);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (353,12,'tuesday',19);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (354,12,'wednesday',20);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
```

```sql
VALUES (355,12,'thursday',21);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (356,12,'friday',22);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (357,12,'saturday',23);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (358,12,'sunday',24);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (359,12,'monday',25);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (360,12,'tuesday',26);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (361,12,'wednesday',27);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (362,12,'thursday',28);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (363,12,'friday',29);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (364,12,'saturday',30);
INSERT INTO olap_bookshop.day (day_id, month_id, day, num_day)
VALUES (365,12,'sunday',31);
commit;


--insert warehouse
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(1,1);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(2,1);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(3,2);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(4,2);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(5,3);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(6,3);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(7,4);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(8,4);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(9,5);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(10,5);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(11,6);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(12,6);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(13,7);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
```

```
(14,7);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(15,8);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(16,8);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(17,9);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(18,9);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(19,10);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(20,10);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(22,11);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(21,11);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(23,12);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(24,12);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(25,13);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(26,13);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(27,14);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(28,14);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(29,15);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(30,15);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(31,16);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(32,16);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(33,17);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(34,17);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(35,18);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(36,18);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(37,19);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(38,19);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(39,20);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
```

```sql
(40,20);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(41,21);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(42,21);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(43,22);
INSERT INTO olap_bookshop.warehouse (code, subregion_id) VALUES
(44,22);
-- inserts olap_bookshop.books
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9706279301,'A Gentleman Never Keeps Score',384.00);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9728304802,'Texas Glory',94.50);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9702833303,'Rainy day friends',45.00);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9703859304,'Crazy Rich Asians',1234.50);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9793937405,'Tell me you are mine',23.60);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9729473006,'The spy and the traitor',200.00);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9703746207,'Paradaise Sky by Jose Lansdale',145.00);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9739482708,'Meet Camaro from the Nigh Charter',165.99);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9706279309,'Book 9 for A Gentleman',344.00);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9728304810,'Book 10 for Texas',84.50);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9702833311,'Book 11 for Rainy day',75.00);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9703859312,'Book 12 for Crazy Rich Asians',124.50);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9793937413,'Book 13 for you',23.60);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9729473014,'Book 14 for the spy and the traitor',240.00);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9793937413,'Book 15 for the Sky ',135.00);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9739482716,'Book 16 for the Nigh Charter',125.99);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9706279317,'Book 17 Keeps Score',314.00);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9728304818,'Book 18 Glory',84.50);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9702833319,'Book 19 day friends',65.00);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9703859320,'Book 20 Asians',1434.50);
INSERT INTO olap_bookshop.books (isbn, title, price) VALUES
(9703859321,'Book 21 for the Bible',1434.50);
```

```sql
--insert facts_ticket
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(52,14,9703859312,275,1);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(345,10,9703746207,48,1);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(314,7,9739482716,15,1);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(50,17,9703746215,56,1);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(6,37,9793937405,270,1);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(358,31,9703746207,96,2);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(223,8,9703746215,84,2);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(91,23,9703746207,16,2);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(142,24,9793937413,166,3);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(123,25,9706279301,180,3);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(339,23,9793937413,14,3);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(35,29,9702833319,287,3);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(167,22,9728304802,56,3);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(64,13,9706279301,90,4);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(219,18,9793937413,581,4);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(129,14,9729473014,637,6);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(60,16,9729473006,74,6);
```

```sql
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(7,12,9706279301,210,7);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(329,24,9728304810,84,7);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(344,38,9793937405,225,7);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(328,10,9739482716,105,7);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(239,32,9703859304,840,8);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(66,6,9793937405,225,8);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(44,30,9729473006,222,8);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(355,10,9703859320,198,9);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(54,13,9702833319,246,9);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(296,37,9703859304,240,10);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(49,18,9703859321,27,10);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(233,6,9729473014,364,11);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(88,5,9728304818,35,11);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(95,36,9728304810,72,11);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(341,21,9703746207,112,11);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(217,11,9706279301,30,11);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(80,27,9706279317,42,13);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
```

```
books_isbn, sell_by_product, ticket_number) VALUES
(206,28,9702833319,246,13);
INSERT INTO olap_bookshop.facts_ticket (day_id, warehouse_code,
books_isbn, sell_by_product, ticket_number) VALUES
(305,34,9706279317,84,13);
```

3. - 4. --- Queries and screenshots
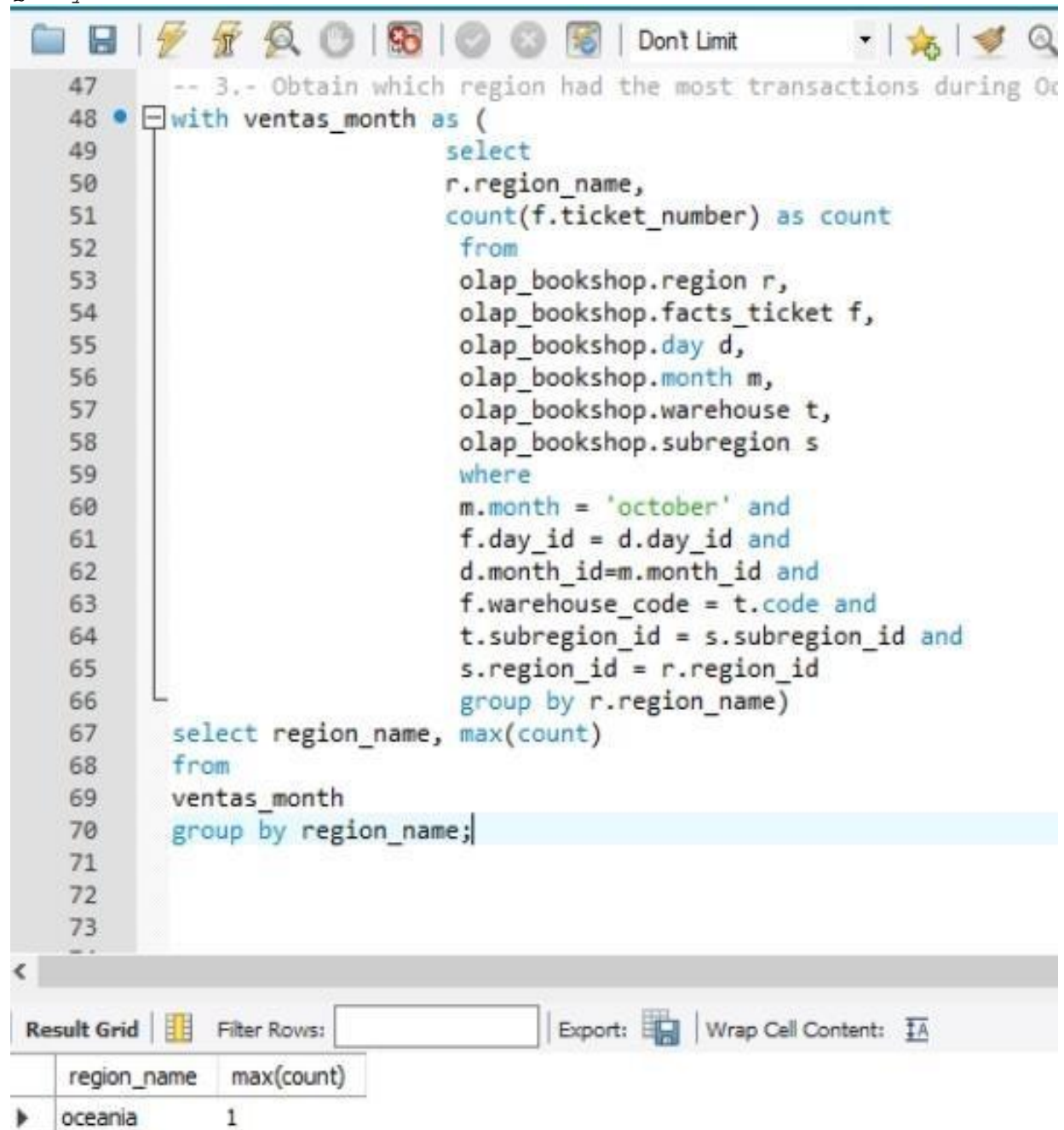
Query 1:

Query 2:

Don't Limit

```
26
27        -- 2.- Obtain annual sales per book YEAR, ISBN, TITLE, SALES_AMOUNT
28  •   select distinct
29        an.year as "year",
30        p.isbn as "isbn",
31        p.title as "title",
32        sum(t.sell_by_product) as "total_sales"
33        from
34        olap_bookshop.year an,
35        olap_bookshop.books p,
36        olap_bookshop.facts_ticket t
37        where
38        t.books_isbn= p.isbn
39        group by
40        an.year,
41        p.isbn
42        order by
43        p.isbn asc;
44
45
46
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

year	isbn	title	total_sales
2017	9702833319	Book 19 day friends	779
2017	9703746207	Paradaise Sky by Jose Lansdale	272
2017	9703859304	Crazy Rich Asians	1080
2017	9703859312	Book 12 for Crazy Rich Asians	275
2017	9703859320	Book 20 Asians	198
2017	9703859321	Book 21 for the Bible	27
2017	9706279301	A Gentleman Never Keeps Score	510
2017	9706279317	Book 17 Keeps Score	126
2017	9728304802	Texas Glory	56
2017	9728304810	Book 10 for Texas	156
2017	9728304818	Book 18 Glory	35
2017	9729473006	The spy and the traitor	296
2017	9729473014	Book 14 for the spy and the tra...	1001
2017	9739482716	Book 16 for the Nigh Charter	120
2017	9793937405	Tell me you are mine	720
2017	9793937413	Book 13 for you	761

Query 3:

```
47       -- 3.- Obtain which region had the most transactions during Oc
48 ●  ⊟with ventas_month as (
49                      select
50                      r.region_name,
51                      count(f.ticket_number) as count
52                       from
53                      olap_bookshop.region r,
54                      olap_bookshop.facts_ticket f,
55                      olap_bookshop.day d,
56                      olap_bookshop.month m,
57                      olap_bookshop.warehouse t,
58                      olap_bookshop.subregion s
59                      where
60                      m.month = 'october' and
61                      f.day_id = d.day_id and
62                      d.month_id=m.month_id and
63                      f.warehouse_code = t.code and
64                      t.subregion_id = s.subregion_id and
65                      s.region_id = r.region_id
66                      group by r.region_name)
67    select region_name, max(count)
68    from
69    ventas_month
70    group by region_name;
71
72
73
```

Result Grid | Filter Rows: [   ] | Export: | Wrap Cell Content: 🔏

region_name	max(count)
▶ oceania	1

Query 4:

```
74
75      -- 4.- Obtain the average of the sale per ticket (invoice
76 •    select
77      r.region_name,
78      m.month,
79      avg(f.sell_by_product)
80      from
81      olap_bookshop.region r,
82      olap_bookshop.facts_ticket f,
83      olap_bookshop.day d,
84      olap_bookshop.month m,
85      olap_bookshop.warehouse t,
86      olap_bookshop.subregion s
87      where
88      f.day_id = d.day_id and
89      d.month_id=m.month_id and
90      f.warehouse_code= t.code and
91      t.subregion_id = s.subregion_id and
92      s.region_id = r.region_id
93      group by
94      r.region_name,
95      m.month
96      order by
97      r.region_name;
98
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

region_name	month	avg(f.sell_by_product)
africa	april	72
africa	august	840
africa	december	96
africa	february	254.5
africa	july	246
africa	march	42
africa	november	84
america	august	224
america	march	130
america	november	15
asia	april	16
asia	august	581
asia	december	63
asia	february	41.5
asia	june	56
asia	may	173
asia	november	84
europe	august	30

Result 25 ×

Query 5:

```
102    -- 5.- Get which books are bought together more frequently by OLAP (SQL)
103  ●  ☐ with prod1 as (
104       select
105       f.ticket_number,
106       p.title
107       from
108       olap_bookshop.books p,
109       olap_bookshop.facts_ticket f
110       where
111       p.isbn = f.books_isbn
112       group by f.ticket_number, p.title
113     └ )
114       select prod1.title, pr.title
115       from olap_bookshop.books pr, olap_bookshop.facts_ticket t, prod1
116       where t.ticket_number = prod1.ticket_number
117
```

Result Grid | Filter Rows: _____ | Export: | Wrap Cell Content: | Fetch rows:

title	title
Book 13 for you	Rainy day friends
Texas Glory	Rainy day friends
A Gentleman Never Keeps Score	Rainy day friends
Book 19 day friends	Rainy day friends
Book 13 for you	Book 11 for Rainy day
Texas Glory	Book 11 for Rainy day
A Gentleman Never Keeps Score	Book 11 for Rainy day
Book 19 day friends	Book 11 for Rainy day
Book 13 for you	Book 19 day friends
Texas Glory	Book 19 day friends
A Gentleman Never Keeps Score	Book 19 day friends
Book 19 day friends	Book 19 day friends
Book 13 for you	Paradaise Sky by Jos...
Texas Glory	Paradaise Sky by Jos...
A Gentleman Never Keeps Score	Paradaise Sky by Jos...
Book 19 day friends	Paradaise Sky by Jos...
Book 13 for you	Crazy Rich Asians
Texas Glory	Crazy Rich Asians
A Gentleman Never Keeps Score	Crazy Rich Asians
Book 19 day friends	Crazy Rich Asians
Book 13 for you	Book 12 for Crazy Ric...
Texas Glory	Book 12 for Crazy Ric...