```sql
-- --------------------------------------------------------
-- Host:                         127.0.0.1
-- Server version:               10.4.32-MariaDB - mariadb.org binary distribution
-- Server OS:                    Win64
-- HeidiSQL Version:             12.3.0.6589
-- --------------------------------------------------------

/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET NAMES utf8 */;
/*!50503 SET NAMES utf8mb4 */;
/*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
/*!40103 SET TIME_ZONE='+00:00' */;
/*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
/*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
/*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;


-- Dumping database structure for ispit_1
CREATE DATABASE IF NOT EXISTS `ispit_1` /*!40100 DEFAULT CHARACTER SET utf8 COLLATE
utf8_unicode_ci */;
USE `ispit_1`;

-- Dumping structure for table ispit_1.agent
CREATE TABLE IF NOT EXISTS `agent` (
  `agent_id` int(10) unsigned NOT NULL AUTO_INCREMENT,
  `departmant_id` int(10) unsigned NOT NULL,
  `username` varchar(64) NOT NULL,
  `ime` varchar(64) NOT NULL,
  `prezime` varchar(64) NOT NULL,
  `lozinka` varchar(255) NOT NULL,
  PRIMARY KEY (`agent_id`),
  UNIQUE KEY `uq_agent_username` (`username`),
  KEY `fk_agent_departman_id` (`departmant_id`),
  CONSTRAINT `fk_agent_departman_id` FOREIGN KEY (`departmant_id`) REFERENCES
`departman` (`departman_id`) ON UPDATE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_unicode_ci;

-- Data exporting was unselected.

-- Dumping structure for table ispit_1.departman
CREATE TABLE IF NOT EXISTS `departman` (
  `departman_id` int(10) unsigned NOT NULL AUTO_INCREMENT,
  `ime` varchar(64) NOT NULL,
  `sifra` varchar(6) NOT NULL,
  PRIMARY KEY (`departman_id`),
  UNIQUE KEY `uq_departman_sifra` (`sifra`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_unicode_ci;

-- Data exporting was unselected.

-- Dumping structure for function ispit_1.GetVrednostByAgent
DELIMITER //
CREATE FUNCTION `GetVrednostByAgent`(`arg_agent_id` INT,
       `arg_od_datuma` DATE,
       `arg_do_datuma` DATE
```

```sql
) RETURNS decimal(10,0)
    DETERMINISTIC
BEGIN

RETURN (


SELECT
agent.`*`,

      IFNULL(SUM(prodaja_roba.kolicina * roba.cena),0) AS ukupna_vrednost
FROM
      agent

LEFT JOIN prodaja ON agent.agent_id = prodaja.agent_id
LEFT JOIN prodaja_roba ON prodaja.prodaja_id = prodaja_roba.prodaja_id
LEFT JOIN roba ON prodaja_roba.roba_id = roba.roba_id
WHERE agent.agent_id = arg_agent_id AND
prodaja.prodato_at BETWEEN arg_od_datuma AND arg_do_datuma


);

END//
DELIMITER ;

-- Dumping structure for table ispit_1.prodaja
CREATE TABLE IF NOT EXISTS `prodaja` (
  `prodaja_id` int(10) unsigned NOT NULL AUTO_INCREMENT,
  `agent_id` int(10) unsigned NOT NULL,
  `prodato_at` timestamp NOT NULL DEFAULT current_timestamp() ON UPDATE
current_timestamp(),
  `naziv_firme` varchar(50) NOT NULL,
  PRIMARY KEY (`prodaja_id`),
  KEY `fk_prodaja_agent_id` (`agent_id`),
  CONSTRAINT `fk_prodaja_agent_id` FOREIGN KEY (`agent_id`) REFERENCES `agent`
(`agent_id`) ON UPDATE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_unicode_ci;

-- Data exporting was unselected.

-- Dumping structure for table ispit_1.prodaja_roba
CREATE TABLE IF NOT EXISTS `prodaja_roba` (
  `prodaja_roba_id` int(10) unsigned NOT NULL AUTO_INCREMENT,
  `prodaja_id` int(10) unsigned NOT NULL,
  `roba_id` int(10) unsigned NOT NULL,
  `kolicina` decimal(10,6) unsigned NOT NULL,
  PRIMARY KEY (`prodaja_roba_id`),
  KEY `fk_prodaja_roba_prodaja_id` (`prodaja_id`),
  KEY `fl_prodaja_roba_roba_id` (`roba_id`),
  CONSTRAINT `fk_prodaja_roba_prodaja_id` FOREIGN KEY (`prodaja_id`) REFERENCES
`prodaja` (`prodaja_id`) ON UPDATE CASCADE,
  CONSTRAINT `fl_prodaja_roba_roba_id` FOREIGN KEY (`roba_id`) REFERENCES `roba`
(`roba_id`) ON UPDATE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_unicode_ci;
```

```sql
-- Data exporting was unselected.

-- Dumping structure for table ispit_1.roba
CREATE TABLE IF NOT EXISTS `roba` (
  `roba_id` int(10) unsigned NOT NULL AUTO_INCREMENT,
  `departman_id` int(10) unsigned NOT NULL,
  `naziv` varchar(50) NOT NULL,
  `opis` text NOT NULL,
  `cena` decimal(10,2) unsigned NOT NULL,
  `sifra` varchar(16) CHARACTER SET utf8 COLLATE utf8_bin NOT NULL,
  PRIMARY KEY (`roba_id`),
  UNIQUE KEY `uq_roba_sifra` (`sifra`),
  KEY `fk_roba_departman_id` (`departman_id`),
  CONSTRAINT `fk_roba_departman_id` FOREIGN KEY (`departman_id`) REFERENCES `departman`
(`departman_id`) ON UPDATE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_unicode_ci;

-- Data exporting was unselected.

-- Dumping structure for trigger ispit_1.trigger_departman_before_update
SET @OLDTMP_SQL_MODE=@@SQL_MODE,
SQL_MODE='NO_ZERO_IN_DATE,NO_ZERO_DATE,NO_ENGINE_SUBSTITUTION';
DELIMITER //
CREATE TRIGGER `trigger_departman_before_update` BEFORE UPDATE ON `departman` FOR EACH
ROW BEGIN
IF LENGTH(NEW.sifra) != 6 THEN
 SIGNAL SQLSTATE '50002' SET MESSAGE_TEXT = "SIFRA MORA IMATI 6 karaktera";
 END IF;
END//
DELIMITER ;
SET SQL_MODE=@OLDTMP_SQL_MODE;

-- Dumping structure for trigger ispit_1.trigger_prodaja_roba_before_insert
SET @OLDTMP_SQL_MODE=@@SQL_MODE,
SQL_MODE='NO_ZERO_IN_DATE,NO_ZERO_DATE,NO_ENGINE_SUBSTITUTION';
DELIMITER //
CREATE TRIGGER `trigger_prodaja_roba_before_insert` BEFORE INSERT ON `prodaja_roba` FOR
EACH ROW
BEGIN
    DECLARE agent_departman_id INT;
    DECLARE roba_departman_id INT;

    SET agent_departman_id = (
        SELECT agent.departman_id
        FROM prodaja
        INNER JOIN agent ON prodaja.agent_id = agent.agent_id
        WHERE prodaja.prodaja_id = NEW.prodaja_id
    );

    SET roba_departman_id = (
        SELECT roba.departman_id
        FROM roba
        WHERE roba.roba_id = NEW.roba_id
    );
```

```sql
        IF agent_departman_id != roba_departman_id THEN
            SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'AGENT NE MOZE DA PRODAJE ROBU';
        END IF;
END//
DELIMITER ;
SET SQL_MODE=@OLDTMP_SQL_MODE;

-- Dumping structure for trigger ispit_1.trigger_prodaja_roba_before_update
SET @OLDTMP_SQL_MODE=@@SQL_MODE,
SQL_MODE='NO_ZERO_IN_DATE,NO_ZERO_DATE,NO_ENGINE_SUBSTITUTION';
DELIMITER //
CREATE TRIGGER `trigger_prodaja_roba_before_update` BEFORE UPDATE ON `prodaja_roba` FOR
EACH ROW BEGIN
    DECLARE agent_departman_id INT;
    DECLARE roba_departman_id INT;

    SET agent_departman_id = (
        SELECT agent.departman_id
        FROM prodaja
        INNER JOIN agent ON prodaja.agent_id = agent.agent_id
        WHERE prodaja.prodaja_id = NEW.prodaja_id
    );

    SET roba_departman_id = (
        SELECT roba.departman_id
        FROM roba
        WHERE roba.roba_id = NEW.roba_id
    );

    IF agent_departman_id != roba_departman_id THEN
        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'AGENT NE MOZE DA PRODAJE ROBU';
    END IF;
END//
DELIMITER ;
SET SQL_MODE=@OLDTMP_SQL_MODE;

-- Dumping structure for trigger ispit_1.trigger_ProveraFormataOznakeProjekta
SET @OLDTMP_SQL_MODE=@@SQL_MODE,
SQL_MODE='NO_ZERO_IN_DATE,NO_ZERO_DATE,NO_ENGINE_SUBSTITUTION';
DELIMITER //
CREATE TRIGGER `trigger_ProveraFormataOznakeProjekta` BEFORE INSERT ON `departman` FOR
EACH ROW BEGIN
IF LENGTH(NEW.sifra) != 6 THEN
 SIGNAL SQLSTATE '50002' SET MESSAGE_TEXT = "SIFRA MORA IMATI 6 karaktera";
 END IF;
END//
DELIMITER ;
SET SQL_MODE=@OLDTMP_SQL_MODE;

-- Dumping structure for trigger ispit_1.trigger_roba_before_insert
SET @OLDTMP_SQL_MODE=@@SQL_MODE,
SQL_MODE='NO_ZERO_IN_DATE,NO_ZERO_DATE,NO_ENGINE_SUBSTITUTION';
DELIMITER //
CREATE TRIGGER `trigger_roba_before_insert` BEFORE INSERT ON `roba` FOR EACH ROW BEGIN
```

```sql
DECLARE sifra_departmana VARCHAR(6);

SET sifra_departmana = (
SELECT departman.sifra FROM departman WHERE departman.departman_id = NEW.departman_id
);

if SUBSTR(NEW.sifra,1,6) != sifra_departmana THEN
     SIGNAL SQLSTATE '50003' SET MESSAGE_TEXT = ' Šifra proizvoda mora da počinje isto
kao i šifra departmana koji tu robu proizvodi, a dodatno
     sadrži još do 10 karaktera (cifara ili slova od A do Z).';
END IF;

IF NEW.sifra NOT RLIKE '^.{6}[0-9A-Z]{1,10}' THEN
     SIGNAL SQLSTATE '50004' SET MESSAGE_TEXT = "Sifra robe je neispravna!";
     END IF;


END//
DELIMITER ;
SET SQL_MODE=@OLDTMP_SQL_MODE;

/*!40103 SET TIME_ZONE=IFNULL(@OLD_TIME_ZONE, 'system') */;
/*!40101 SET SQL_MODE=IFNULL(@OLD_SQL_MODE, '') */;
/*!40014 SET FOREIGN_KEY_CHECKS=IFNULL(@OLD_FOREIGN_KEY_CHECKS, 1) */;
/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40111 SET SQL_NOTES=IFNULL(@OLD_SQL_NOTES, 1) */;
```