1)

```
CREATE DATABASE TESTE_1;

USE TESTE_1;

CREATE TABLE TABELA_1 (
ID_NF VARCHAR(1) NOT NULL,
ID_ITEM VARCHAR(1) NOT NULL,
COD_PROD VARCHAR(1) NOT NULL,
VALOR_UNIT FLOAT NOT NULL,
QUANTIDADE INT NOT NULL,
DESCONTO(%) FLOAT NULL
);

INSERT INTO TABELA_1
VALUES
(1,1,1,25,10,5),
(1,2,2,13.50,3,NULL),
(1,3,3,15,2,NULL),
(1,4,4,10,1,NULL),
(1,5,5,30,1,NULL),
(2,1,3,15,4,NULL),
(2,2,4,10,5,NULL),
(2,3,5,30,7,NULL),
(3,1,1,25,5,NULL),
(3,2,4,10,4,NULL),
(3,3,5,30,5,NULL),
(3,4,2,13.50,7,NULL),
(4,1,5,30,10,15),
(4,2,4,10,12,5),
```

(4,3,1,25,13,5),

(4,4,2,13.50,15,5),

(5,1,3,15,3,NULL),

(5,2,5,30,6,NULL),

(6,1,1,25,22,15),

(6,2,3,15,25,20),

(7,1,1,25,10,3),

(7,2,2,13.50,10,4),

(7,3,3,15,10,4),

(7,4,5,30,10,1);

a)

```
SELECT ID_NF,ID_ITEM,COD_PROD,VALOR_UNIT FROM TABELA_1
WHERE DESCONTO(%) IS NULL;
```

b)

```
SELECT ID_NF,ID_ITEM,COD_PROD,VALOR_UNIT, (VALOR_UNIT –
(VALOR_UNIT*(DESCONTO(%)/100))) AS VALOR_VENDIDO FROM TABELA_1
WHERE DESCONTO(%) IS NOT NULL;
```

c)

```
UPDATE TABLE TABELA_1
SET DESCONTO(%) = 0
WHERE DESCONTO(%) IS NULL;
```

d)

```
SELECT ID_NF,ID_ITEM,COD_PROD,VALOR_UNIT, (QUANTIDADE*VALOR_UNIT) AS
VALOR_TOTAL, DESCONTO(%) AS DESCONTO, (VALOR_UNIT –
(VALOR_UNIT*(DESCONTO/100))) AS VALOR_VENDIDO FROM TABELA_1;
```

e)

```
SELECT ID_NF, SUM(QUANTIDADE*VALOR_UNIT) AS VALOR_TOTAL FROM TABELA_1
GROUP BY ID_NF
ORDER BY SUM(QUANTIDADE*VALOR_UNIT) DESC;
```

f)

```
SELECT ID_NF, SUM(VALOR_UNIT – (VALOR_UNIT * (DESCONTO(%)/100))) AS
VALOR_VENDIDO FROM TABELA_1
GROUP BY ID_NF
ORDER BY SUM(VALOR_UNIT – (VALOR_UNIT * (DESCONTO(%)/100))) DESC;
```

g)

```
SELECT COD_PROD, MAX(SUM(QUANTIDADE)) FROM TABELA_1
GROUP BY COD_PROD ;
```

h)

```
SELECT ID_NF, COD_PROD, SUM(QUANTIDADE) FROM TABELA_1
GROUP BY ID_NF, COD_PROD;
HAVING SUM(QUANTIDADE) > 10;
```

i)

```
SELECT ID_NF, SUM(QUANTIDADE*VALOR_UNIT) AS VALOR_TOTAL FROM TABELA_1
GROUP BY ID_NF
HAVING SUM(QUANTIDADE*VALOR_UNIT) > 500
ORDER BY SUM(QUANTIDADE*VALOR_UNIT) DESC;
```

j)

```
SELECT COD_PROD, AVG(DESCONTO(%)) AS MEDIA FROM TABELA_1
GROUP BY COD_PROD;
```

k)

```
SELECT COD_PROD, MIN(DESCONTO(%)) AS MENOR, MAX(DESCONTO(%)) AS MAIOR,
AVG(DESCONTO(%)) AS MEDIA FROM TABELA_1
GROUP BY COD_PROD;
```

l)

```
SELECT ID_NF, COUNT(ID_ITEM) AS QTD_ITENS FROM TABELA_1
GROUP BY ID_NF
HAVING COUNT(ID_ITEM)>3;
```

2)

```
CREATE DATABASE Universidade;
USE Universidade;

CREATE TABLE Alunos (
MAT VARCHAR(10) NOT NULL,
nome VARCHAR(40) NOT NULL,
endereço VARCHAR(40) NOT NULL,
cidade VARCHAR(40) NOT NULL,
PRIMARY KEY(MAT)
);

CREATE TABLE Disciplinas (
COD_DISC VARCHAR(6) NOT NULL,
nome_disc VARCHAR(40) NOT NULL,
carga_hor VARCHAR(5) NOT NULL,
PRIMARY KEY(COD_DISC)
);

CREATE TABLE Professores (
COD_PROF VARCHAR(7) NOT NULL,
nome VARCHAR(40) NOT NULL,
endereço VARCHAR(40) NOT NULL,
cidade VARCHAR(40) NOT NULL,
PRIMARY KEY(COD_PROF)
);
```

```
CREATE TABLE Turma (
COD_DISC VARCHAR(6) NOT NULL,
COD_TURMA VARCHAR(6) NOT NULL,
COD_PROF VARCHAR(7) NOT NULL,
ANO INT NOT NULL,
horário VARCHAR(10) NOT NULL,
PRIMARY KEY(COD_DISC,COD_TURMA,COD_PROF,ANO),
FOREIGN KEY (COD_DISC) REFERENCES Disciplinas (COD_DISC),
FOREIGN KEY (COD_PROF) REFERENCES Professores (COD_PROF)
);

CREATE TABLE Histórico (
MAT VARCHAR(10) NOT NULL,
COD_DISC VARCHAR(6) NOT NULL,
COD_TURMA VARCHAR(6) NOT NULL,
COD_PROF VARCHAR(7) NOT NULL,
ANO INT NOT NULL,
frequência VARCHAR(3) NOT NULL,
nota FLOAT NOT NULL,
PRIMARY KEY(MAT,COD_DISC,COD_TURMA,COD_PROF,ANO),
FOREIGN KEY (MAT) REFERENCES Alunos (MAT),
FOREIGN KEY (COD_DISC) REFERENCES Turma (COD_DISC),
FOREIGN KEY (COD_TURMA) REFERENCES Turma (COD_TURMA),
FOREIGN KEY (COD_PROF) REFERENCES Turma (COD_PROF),
FOREIGN KEY (ANO) REFERENCES Turma (ANO)
);
```

```
INSERT INTO Alunos
VALUES
(2015010101, “JOSE DE ALENCAR”,”RUA DAS ALMAS”, “NATAL”),
(2015010102,”JOÃO JOSÉ”, “AVENIDA RUY CARNEIRO”,”JOÃO PESSOA”),
(2015010103,”MARIA JOAQUINA”, “RUA CARROSSEL”,”RECIFE”),
(2015010104,”MARIA DAS DORES”,”RUA DAS LADEIRAS”,”FORTALEZA”),
(2015010105,”JOSUÉ CLAUDINO DOS SANTOS”,”CENTRO”,”NATAL”),
(2015010106,”JOSUÉLISSON CLAUDINO DOS SANTOS”,”CENTRO”,”NATAL”);

INSERT INTO Disciplinas
VALUES
(“BD”,”BANCO DE  DADOS”,100),
(“POO,”PROGRAMAÇÃO COM ACESSO A BANCO DE DADOS”,100),
(“WEB”,”AUTORIA WEB”,50),
(“ENG”,”ENGENHARIA DE SOFTWARE”,80);

INSERT INTO Professores
VALUES
(212131,”NICKERSON FERREIRA”,”RUA MANAÍRA”,”JOÃO PESSOA”),
(122135,”ADORILSON BEZERRA”,”AVENIDA SALGADO FILHO”,”NATAL”),
(192011,”DIEGO OLIVEIRA”,”AVENIDA ROBERTO FREIRE”,”NATAL”);

INSERT INTO Turma
VALUES
(“BD”,1,212131,2015,”11H-12H”),
(“BD”,2,212131,2015,”13H-14H”),
(“POO”,1,192011,2015,”08H-09H”),
(“WEB”,1,192011,2015,”07H-08H”),
(“ENG”,1,122135,2015,”10H-11H”);
```

```
INSERT INTO Histórico
VALUES
(2015010101, “BD”,1,212131,2015,10,8.5),
(2015010102, “BD”,1,212131,2015,10,8.3),
(2015010103, “BD”,1,212131,2015,4,7.8),
(2015010104, “BD”,1,212131,2015,8,5.0),
(2015010105, “BD”,1,212131,2015,6,7.7),
(2015010106, “BD”,1,212131,2015,7,5.5),
(2015010101,“BD”,2,212131,2015,10,8.5),
(2015010102, “BD”,2,212131,2015,10,8.3),
(2015010103, “BD”,2,212131,2015,4,7.8),
(2015010104, “BD”,2,212131,2015,8,5.0),
(2015010105, “BD”,2,212131,2015,6,7.7),
(2015010106, “BD”,2,212131,2015,7,5.5),
(2015010101,“POO”,1,192011,2015,10,8.5),
(2015010102, “POO”,1, 192011,2015,10,8.3),
(2015010103, “POO”,1, 192011,2015,4,7.8),
(2015010104, “POO”,1,192011,2015,8,5.0),
(2015010105, “POO”,1, 192011,2015,6,7.7),
(2015010106, “POO”,1, 192011,2015,7,5.5),
(2015010101,“WEB”,1,192011,2015,10,8.5),
(2015010102, “WEB”,1, 192011,2015,10,8.3),
(2015010103, “WEB”,1, 192011,2015,4,7.8),
(2015010104, “WEB”,1,192011,2015,8,5.0),
(2015010105, “WB”,1, 192011,2015,6,7.7),
(2015010106, “WEB”,1, 192011,2015,7,5.5),
(2015010101,“ENG”,1, 122135,2015,10,8.5),
(2015010102, “ENG”,1, 122135,2015,10,8.3),
(2015010103, “ENG”,1, 122135,2015,4,7.8),
(2015010104, “ENG”,1, 122135,2015,8,5.0),
(2015010105, “ENG”,1, 122135,2015,6,7.7)
```

(2015010106, “ENG”,1,122135,2015,7,5.5);

a)

```
SELECT MAT FROM Histórico
WHERE COD_DISC = “BD” AND ANO = 2015 AND nota < 5;
```

b)

```
SELECT MAT, AVG(nota) FROM Histórico
WHERE COD_DISC = “POO” AND ANO = 2015
GROUP BY MAT;
```

c)

```
SELECT MAT, AVG(nota) FROM Histórico
WHERE COD_DISC = “POO” AND ANO = 2015
GROUP BY MAT
HAVING AVG(nota) >6;
```

d)

```
SELECT COUNT(*) FROM Alunos
WHERE cidade <> “NATAL”;
```