

HW4 Solution

6.1.3

a)

```
SELECT  model,
        speed,
        hd
FROM    PC
WHERE   price < 1000 ;
```

MODEL	SPEED	HD
-----	-----	-----
1002	2.10	250
1003	1.42	80
1004	2.80	250
1005	3.20	250
1007	2.20	200
1008	2.20	250
1009	2.00	250
1010	2.80	300
1011	1.86	160
1012	2.80	160
1013	3.06	80

11 record(s) selected.

```
c)
SELECT  maker
FROM    Product
WHERE   TYPE = 'printer' ;
```

MAKER

D
D
E
E
E
H
H

7 record(s) selected.

```
d)
SELECT  model,
        ram  ,
        screen
FROM    Laptop
WHERE   price > 1500 ;
```

MODEL	RAM	SCREEN
-----	-----	-----
2001	2048	20.1
2005	1024	17.0
2006	2048	15.4
2010	2048	15.4

4 record(s) selected.

6.22

```
b)
SELECT  R.model,
        P.price
FROM    Product R,
        PC P
WHERE   R.maker = 'B'
        AND R.model = P.model

UNION

SELECT  R.model,
        L.price
FROM    Product R,
        Laptop L
WHERE   R.maker = 'B'
        AND R.model = L.model

UNION

SELECT  R.model,
        T.price
FROM    Product R,
        Printer T
WHERE   R.maker = 'B'
        AND R.model = T.model ;
```

```
MODEL PRICE
-----
1004      649
1005      630
1006     1049
2007     1429
```

4 record(s) selected.

c)

```
SELECT  R.maker
FROM    Product R,
        Laptop L
WHERE   R.model = L.model
```

EXCEPT

```
SELECT  R.maker
FROM    Product R,
        PC P
WHERE   R.model = P.model ;
```

MAKER

F

G

2 record(s) selected.

e)

```
SELECT  P1.model,
        P2.model
FROM    PC P1,
        PC P2
WHERE   P1.speed = P2.speed
        AND P1.ram  = P2.ram
        AND P1.model < P2.model ;
```

MODEL MODEL

1004 1012

1 record(s) selected.

6.3.1

a)

```
SELECT DISTINCT maker
FROM   Product
WHERE  model IN
      (SELECT model
       FROM   PC
       WHERE  speed >= 3.0
      );

SELECT DISTINCT R.maker
FROM   Product R
WHERE  EXISTS
      (SELECT P.model
       FROM   PC P
       WHERE  P.speed >= 3.0
              AND P.model =R.model
      );
```

b)

```
SELECT P1.model
FROM   Printer P1
WHERE  P1.price >= ALL
      (SELECT P2.price
       FROM   Printer P2
      );

SELECT P1.model
FROM   Printer P1
WHERE  P1.price IN
      (SELECT MAX(P2.price)
       FROM   Printer P2
      );
```

c)

```
SELECT L.model
FROM   Laptop L
WHERE  L.speed < ANY
      (SELECT P.speed
       FROM   PC P
      );

SELECT L.model
FROM   Laptop L
WHERE  EXISTS
      (SELECT P.speed
       FROM   PC P
       WHERE  P.speed >= L.speed
      );
```

e)

```
SELECT  R.maker
FROM    Product R,
        Printer T
WHERE   R.model  =T.model
        AND T.price <= ALL
        (SELECT MIN(price)
         FROM    Printer
        );

SELECT  R.maker
FROM    Product R,
        Printer T1
WHERE   R.model  =T1.model
        AND T1.price IN
        (SELECT MIN(T2.price)
         FROM    Printer T2
        );
```