

Sri Lanka Institute of Information Technology

IT3020 - Database Systems (DBS)

Laboratory Worksheet 01

Create Client Table

```
CREATE TABLE client (  
    clno CHAR(3) PRIMARY KEY,  
    name VARCHAR(12),  
    address VARCHAR(30)  
);
```

Create Stock Table

```
CREATE TABLE stock (  
    company CHAR(7) PRIMARY KEY,  
    price number(6,2),  
    dividend number(4,2),  
    eps number(4,2)  
);
```

Create Trading Table

```
CREATE TABLE trading (  
    company CHAR(7),  
    exchange VARCHAR(12),  
    PRIMARY KEY (company, exchange),  
    FOREIGN KEY (company) REFERENCES stock(company)  
);
```

Create Purchase Table

```
CREATE TABLE purchase (  
    clno CHAR(3),  
    company CHAR(7),  
    pdate DATE,  
    qty NUMBER(6),  
    price NUMBER(6,2),  
    PRIMARY KEY (clno, company, pdate),  
    FOREIGN KEY (clno) REFERENCES client(clno),  
    FOREIGN KEY (company) REFERENCES stock(company)  
);
```

Insert into CLIENT Table

```
INSERT INTO client VALUES ('c01', 'John Smith', '3 East Av, Bentley, WA 6102');
INSERT INTO client VALUES ('c02', 'Jill Brody ', '42 Bent St, Perth, WA 6001');
```

Insert into STOCK Table

```
INSERT INTO stock VALUES ('BHP', 10.50, 1.50, 3.20);
INSERT INTO stock VALUES ('IBM', 70.00, 4.25, 10.00);
INSERT INTO stock VALUES ('INTEL', 76.50, 5.00, 12.40);
INSERT INTO stock VALUES ('FORD', 40.00, 2.00, 8.50);
INSERT INTO stock VALUES ('GM', 60.00, 2.50, 9.20);
INSERT INTO stock VALUES ('INFOSYS', 45.00, 3.00, 7.80);
```

Insert into TRADING Table

```
INSERT INTO trading VALUES ('BHP', 'Sydney');
INSERT INTO trading VALUES ('BHP', 'New York');
```

```
INSERT INTO trading VALUES ('IBM', 'New York');
INSERT INTO trading VALUES ('BHP', 'London');
INSERT INTO trading VALUES ('BHP', 'Tokyo');
```

```
INSERT INTO trading VALUES ('INTEL', 'New York');
INSERT INTO trading VALUES ('INTEL', 'London');
```

```
INSERT INTO trading VALUES ('FORD', 'New York');
```

```
INSERT INTO trading VALUES ('GM', 'New York');
```

```
INSERT INTO trading VALUES ('INFOSYS', 'New York');
```

Insert Data into Purchase

```
INSERT INTO purchase VALUES ('c01', 'BHP', TO_DATE('02-10-2001','DD-MM-YYYY'), 1000, 12.00);
INSERT INTO purchase VALUES ('c01', 'BHP', TO_DATE('08-06-2002','DD-MM-YYYY'), 2000, 10.50);
INSERT INTO purchase VALUES ('c01', 'IBM', TO_DATE('12-02-2000','DD-MM-YYYY'), 500, 58.00);
INSERT INTO purchase VALUES ('c01', 'IBM', TO_DATE('10-04-2001','DD-MM-YYYY'), 1200, 65.00);
INSERT INTO purchase VALUES ('c01', 'INFOSYS', TO_DATE('11-08-2001','DD-MM-YYYY'), 1000, 64.00);
```

```
INSERT INTO purchase VALUES ('c02', 'INTEL', TO_DATE('30-01-2000','DD-MM-YYYY'), 300, 35.00);
INSERT INTO purchase VALUES ('c02', 'INTEL', TO_DATE('30-01-2001','DD-MM-YYYY'), 400, 54.00);
INSERT INTO purchase VALUES ('c02', 'INTEL', TO_DATE('02-10-2001','DD-MM-YYYY'), 200, 60.00);
INSERT INTO purchase VALUES ('c02', 'FORD', TO_DATE('05-10-1999','DD-MM-YYYY'), 300, 40.00);
INSERT INTO purchase VALUES ('c02', 'GM', TO_DATE('12-12-2000','DD-MM-YYYY'), 500, 55.50);
```

a) Query – Client investments with stock details

```
SELECT c.name,  
       s.company,  
       s.price,  
       s.dividend,  
       s.eps  
FROM client c  
JOIN purchase p ON c.clno = p.clno  
JOIN stock s ON p.company = s.company;
```

b) Query – Total shares & average purchase price

```
SELECT c.name,  
       p.company,  
       SUM(p.qty) AS total_shares,  
       SUM(p.qty * p.price) / SUM(p.qty) AS avg_purchase_price  
FROM client c  
JOIN purchase p ON c.clno = p.clno  
GROUP BY c.name, p.company;
```

c) Query – New York stocks & current value

```
SELECT s.company,  
       c.name,  
       SUM(p.qty) AS total_shares,  
       SUM(p.qty) * s.price AS current_value  
FROM client c  
JOIN purchase p ON c.clno = p.clno  
JOIN stock s ON p.company = s.company  
JOIN trading t ON s.company = t.company  
WHERE t.exchange = 'New York'  
GROUP BY s.company, c.name, s.price;
```

d) Query – Total purchase value per client

```
SELECT c.name,  
       SUM(p.qty * p.price) AS  
total_purchase_value  
FROM client c  
JOIN purchase p ON c.clno =  
p.clno  
GROUP BY c.name;
```

e) Query – Book profit / loss

```
SELECT c.name,  
       (SUM(p.qty * s.price) - SUM(p.qty * p.price)) AS book_profit  
FROM client c  
JOIN purchase p ON c.cno = p.cno  
JOIN stock s ON p.company = s.company  
GROUP BY c.name;
```

Student Name : SAWSARANI M.A.J.

Student ID : IT23341968

Submit Date : 2026 – 02 – 02