

**IT3020**

**Database Systems (DBS)**

**3rd Year, 2nd Semester**

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**Lab Sheet 1 Answer**

Submitted to

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1. **Create Databases**

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| ***Client Table***  CREATE TABLE client (  clno CHAR(3) PRIMARY KEY,  name VARCHAR(12),  address VARCHAR(30)  ); |
| ***Stock Table***  CREATE TABLE stock(  company CHAR(7) PRIMARY KEY,  price NUMERIC(6,2),  divided NUMERIC(4,2),  eps NUMERIC(4,2)  ); |
| ***Trading Table***  CREATE TABLE trading (  company CHAR(7),  exchange VARCHAR(12),  PRIMARY KEY (company, exchange)  ); |
| ***Purchase Table***  CREATE TABLE purchase (  clno CHAR(3),  company CHAR(7),  pdate DATE,  qty NUMERIC(6),  price NUMERIC(6,2),  PRIMARY KEY (clno, company, pdate),  FOREIGN KEY (clno) REFERENCES client(clno),  FOREIGN KEY (company) REFERENCES stock(company)  ); |

1. **Insert Data**

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| ***Insert Data into Client***  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 Data into Stock***  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 Data into Trading***  INSERT INTO trading VALUES (‘BHP’, ‘Sydney, New York’);  INSERT INTO trading VALUES (‘IBM’, ‘New York, London, Tokyo’);  INSERT INTO trading VALUES (‘INTEL’, ‘New York, 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(‘19/02/24’, ‘DD/MM/YY), 1000, 12.00);  INSERT INTO purchase VALUES (‘c01’, ‘BHP’, TO\_DATE (‘08/06/02’, ‘DD/MM/YY), 2000, 10.50);  INSERT INTO purchase VALUES (‘c01’, ‘IBM’, TO\_DATE(‘12/02/00’, ‘DD/MM/YY), 500, 58.00);  INSERT INTO purchase VALUES (‘c01’, ‘IBM’, TO\_DATE(’10/04/01’, ‘DD/MM/YY), 1200, 65.00);  INSERT INTO purchase VALUES(‘c01’, ‘INFOSYS’, TO\_DATE(’11/08/01’, ‘DD/MM/YY), 1000, 64.00);  INSERT INTO purchase VALUES (‘c02’, ‘INTEL’, TO\_DATE(‘30/01/00’, ‘DD/MM/YY), 300, 35.00);  INSERT INTO purchase VALUES (‘c02’, ‘INTEL’, TO\_DATE(‘30/01/01’, ‘DD/MM/YY), 400, 54.00);  INSERT INTO purchase VALUES (‘c02’, ‘INTEL’, TO\_DATE(‘02/10/01’, ‘DD/MM/YY), 200, 60.00);  INSERT INTO purchase VALUES (‘c02’, ‘FORD’, TO\_DATE(‘05/10/99’, ‘DD/MM/YY), 300, 40.00);  INSERT INTO purchase VALUES (‘c02’, ‘GM’, TO\_DATE(‘12/12/00’, ‘DD/MM/YY), 500, 55.00); |

1. **Answer Queries**

SELECT c.name AS Name,

s.company AS Company,

s.price AS Current\_Price,

s.dividend AS Last\_Dividend,

s.eps AS Earning\_Per\_Share

FROM client c

JOIN purchase p ON c.clno

JOIN stock s ON p.company = s.company;

Select c.name AS Name,

p.company AS Company,

SUM(p.qty) AS Total\_Shares\_Held,

ROUND(SUM(p.qty \* p.price) / SUM(p.qty), 2) AS Average\_Purchase\_Price

FROM client c

JOIN purchase p ON c.clno = p.clno

GROUP BY c.name, p.company;

Select s.company AS Company,

c.name AS Name,

p.qty AS shares\_held,

ROUND(p.qty \* s.price, 2) 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’;

SELECT c.Name AS 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;

SELECT c.name AS Name,

SUM(p.qty \* s.price) - SUM(p.qty \* p.price) AS book\_profit

FROM client c

JOIN purchase p ON c.clno = p.clno

JOIN stock s ON p.company = s.company

GROUP BY c.name;