

COMM1822

Term 2 2022



Introduction to Databases for Business Analytics

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Week 9

Subqueries and Merge Statements Big Data

Lecturer-in-Charge: Kam-Fung (Henry) Cheung

Email: kf.cheung@unsw.edu.au

Tutors: Theresa Tran

Liam Li Chen

Kathy Xu

PASS Leader: Srilekha Chandrashekara Kolaki

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Week 9 Welcome Video
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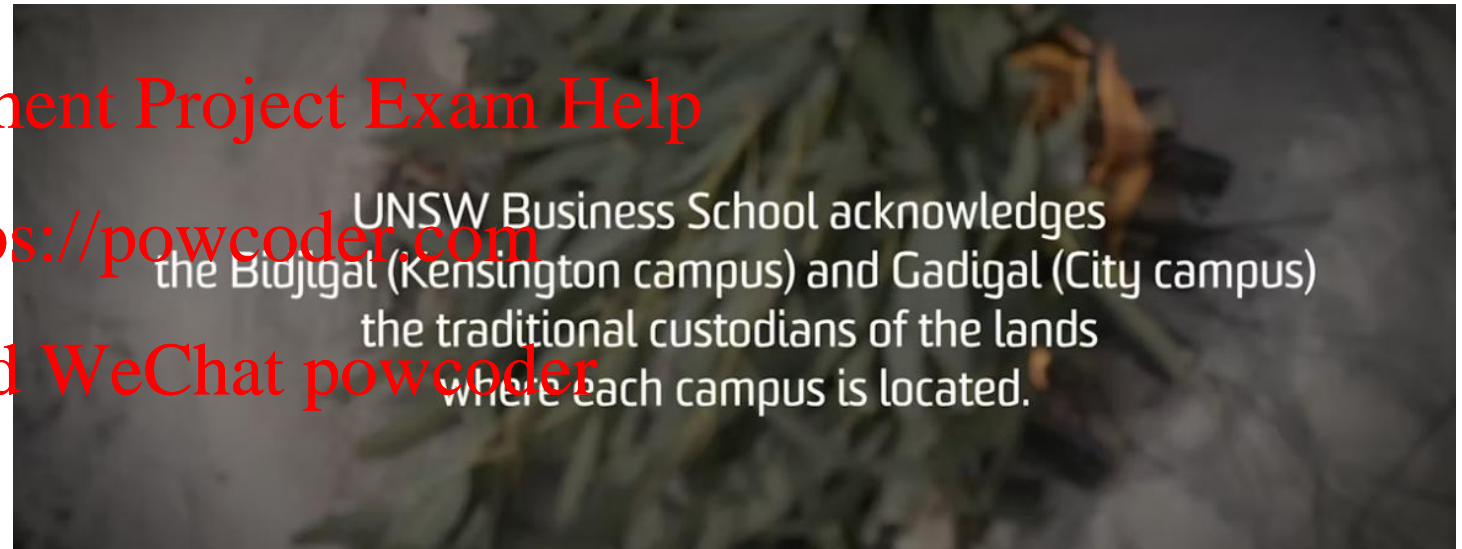
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We acknowledge all Aboriginal and Torres Strait Islander Elders, past and present and their communities who have shared and practiced their teachings over thousands of years including business practices.

We recognise Aboriginal and Torres Strait Islander people's ongoing leadership and contributions, including to business, education and industry.



UNSW Business School. (2022, May 7). *Acknowledgement of Country* [online video]. Retrieved from <https://vimeo.com/369229957/d995d8087f>

COMM1822 Consultation

What	Who	When	How
Consultation with the LiC	Kam-Fung (Henry) Cheung	Tuesday 10.00 - 11.00 am (AEST)	Send an email to book a time: kf.cheung@unsw.edu.au

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COMM1822 PASS Class

What	Who	When	How
PASS Class	Srilekha Kolaki	Friday 10:00 – 11:00 am (AEST)	Online via https://au.bbcollab.com/guest/734c929b0ddf42d2868fc2304b801d82 Email: s.kolaki@student.unsw.edu.au

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Agenda

- ❑ MyExperience
- ❑ Discussion of Subqueries and Merge Statements
- ❑ Week 9 Sandbox Activity
- ❑ Big Data Strategy

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<https://web.microsoftstream.com/video/48ac8258-0c17-4b84-89c7-80dff76e6db5>
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Agenda

☐ MyExperience

☐ Discussion of Subqueries and Merge Statements

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☐ Week 9 Sandbox Activity

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☐ Big Data Strategy

Week 9 Lab Manual Discussion

1. What is the purpose of subqueries and how might they be useful?

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2. What are the different types of subqueries?

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3. What new concept has been introduced?

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4. What new clauses have been introduced?

Agenda

☐ MyExperience

☐ Discussion of Subqueries and Merge Statements

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☐ **Week 9 Sandbox Activity**

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☐ Big Data Strategy

Week 9 Sandbox Activity

1. Determine which other customer visited the restaurant on the same day as David Nguyen.
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2. Determine which food items have a longer preparation time than Ox Tongue.
<https://powcoder.com>
3. Determine which food items cost less than the most frequently ordered drink item. Display the name of the dish and the price.
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4. List each chef's name, and the average price of all items ordered that each chef prepares (per day).

Week 9 Sandbox Activity

1. Determine which other customer visited the restaurant on the same day as David Nguyen.

```
SELECT DISTINCT c.name  
FROM CUSTOMER c  
INNER JOIN ORDERS o  
USING (customer_id)  
WHERE order_date =  
      (SELECT order_date FROM ORDERS WHERE customer_id =  
        (SELECT customer_id FROM CUSTOMER where name = 'David Nguyen')  
      )  
AND c.name <> 'David Nguyen';
```

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(SELECT customer_id FROM CUSTOMER where name = 'David Nguyen')

Week 9 Sandbox Activity

2. Determine which food items have a longer preparation time than Ox Tongue.

```
SELECT *  
FROM FOOD  
WHERE cook_time >
```

```
(SELECT cook_time FROM FOOD WHERE dish_name = 'Ox Tongue');
```

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Week 9 Sandbox Activity

3. Determine which food items cost less than the most frequently ordered drink item. Display the name of the dish and the price.

```
SELECT * FROM FOOD  
WHERE price <
```

```
(  
    SELECT d.price  
    FROM DRINKS d INNER JOIN ORDERS o ON d.drink_id = o.drink_id  
    GROUP BY d.drink_id, d.drink_name, d.price  
    ORDER BY count(*) DESC  
    FETCH FIRST 1 ROWS ONLY -- Can be done alternatively using more subqueries to get the  
maximum count, then join back  
);
```

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Week 9 Sandbox Activity

4. List each chef's name, and the average price of all items ordered that each chef prepares (per day).

```
SELECT c.name, TO_CHAR(av.average_revenue, '$99.99') "Average Daily Revenue"  
FROM CHEF c  
INNER JOIN
```

```
(  
  SELECT staff_id, AVG(daily_revenue) average_revenue FROM  
  (SELECT c.staff_id, o.order_date, sum(f.price*(100 - d.percentage)/100.0) daily_revenue  
  FROM orders o INNER JOIN discounts d  
  ON o.discount_id = d.discount_id  
  INNER JOIN food f  
  ON o.food_id = f.food_id  
  INNER JOIN cooks c  
  ON f.food_id = c.food_id  
  GROUP BY c.staff_id, o.order_date)  
GROUP BY staff_id  
)  
av ON c.staff_id = av.staff_id;
```

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Online Safety - Break

- Rest Breaks: <https://safety.unsw.edu.au/office-safety-toolkit/rest-breaks>
- WorkRave at UNSW:
https://safety.unsw.edu.au/sites/default/files/documents/UNSW_WorkRave_V1.0.pdf
- Setting up you Workstation : <https://safety.unsw.edu.au/setting-your-workstation-video>
- Online Safety and Wellbeing Tutorial: <https://student.unsw.edu.au/safety>
- SafeWork 6 Simple stretches: <https://www.safework.nsw.gov.au/resource-library/six-simple-stretches>

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Break

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Take a 5 minute break
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Agenda

- ❑ MyExperience
- ❑ Discussion of Subqueries and Merge Statements
- ❑ Week 9 Sandbox Activity
- ❑ **Big Data Strategy**

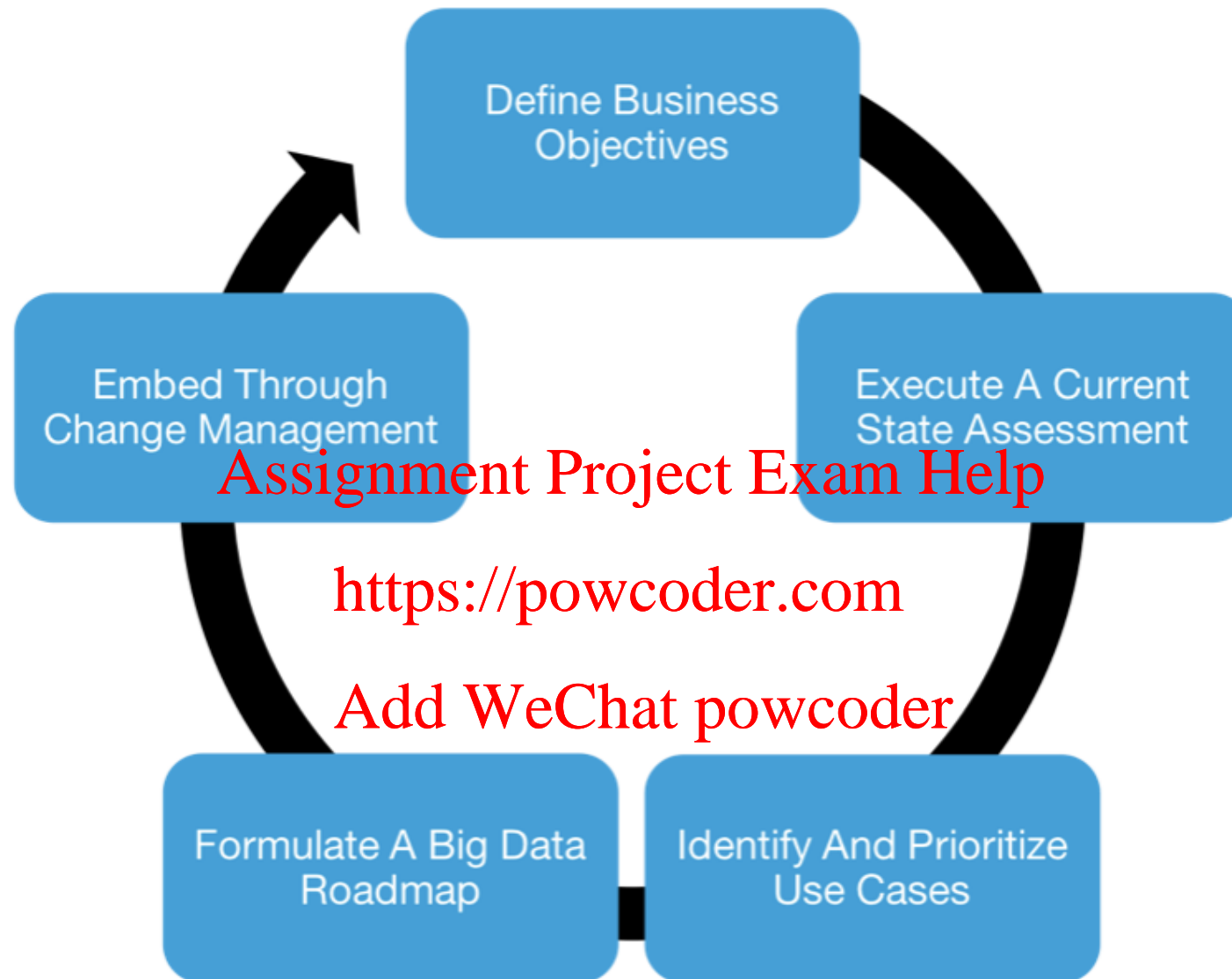
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Big Data Strategy (Discussion)

1. Research a company of your choice (different from last week's company if possible)
2. Build a Big Data strategy using the 5 steps of the Enterprise Big Data Framework: <https://www.bigdataframework.org/formulating-a-big-data-strategy/>
<https://powcoder.com>
3. Focus in this discussion on the challenges each Big Data project would face, i.e., the three interdependent components that cause success or failure: **People, Process and Technology**
See next slide
30 min in breakout rooms/groups
Present your work in groups (3 min per group)



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<https://www.bigdataframework.org/formulating-a-big-data-strategy/>