# IST769 Homework Submission

## Basic Information

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Date Due: 10/28/21   
Homework #:4

## Instructions

For each answer, please include your answer as text, and any screenshot(s) which demonstrate your answer was executed. Most importantly, make sure to include evidence your answer is correct. This will most likely be a screenshot. If you had issues, problems, or had to make assumptions include them in your answer.

## Your Answers:

1. **Create a non-clustered index on the timesheets table in the demo database. The index you create should be designed to improve the following query:**

select employee\_id, employee\_firstname, employee\_lastname, sum(timesheet\_hourlyrate\*timesheet\_hours)

from timesheets

group by employee\_id, employee\_firstname, employee\_lastname;

Graphical user interface, text

Description automatically generated

1. **Write an SQL Select query which uses the index you created in the first question but does an index seek instead of an index scan.**

Graphical user interface, application, Word

Description automatically generated

1. **Create a single columnstore index on the timesheets table in the demo database which will improve the following queries:**

select employee\_department, sum(timesheet\_hours)

from timesheets group by employee\_department

select employee\_jobtitle, avg(timesheet\_hourlyrate)

from timesheets group by employee\_jobtitle

Table

Description automatically generated with low confidence

1. **Create an indexed view named v\_employees on the timesheets table in the demo database which lists the employee id, first name, last name, job title, and department columns values and one row per employee (essentially re-building the employee table). Then set a unique clustered index on the view and finish by writing an SQL Select query which uses the indexed view.**

Graphical user interface, text, application

Description automatically generated

1. **Output the following query in JSON format: Display the employee id, first name, last name, count of timesheets, total hours worked, and average timesheet hourly rate.**

Text

Description automatically generatedA picture containing graphical user interface

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