BIG DATA

SECTION D

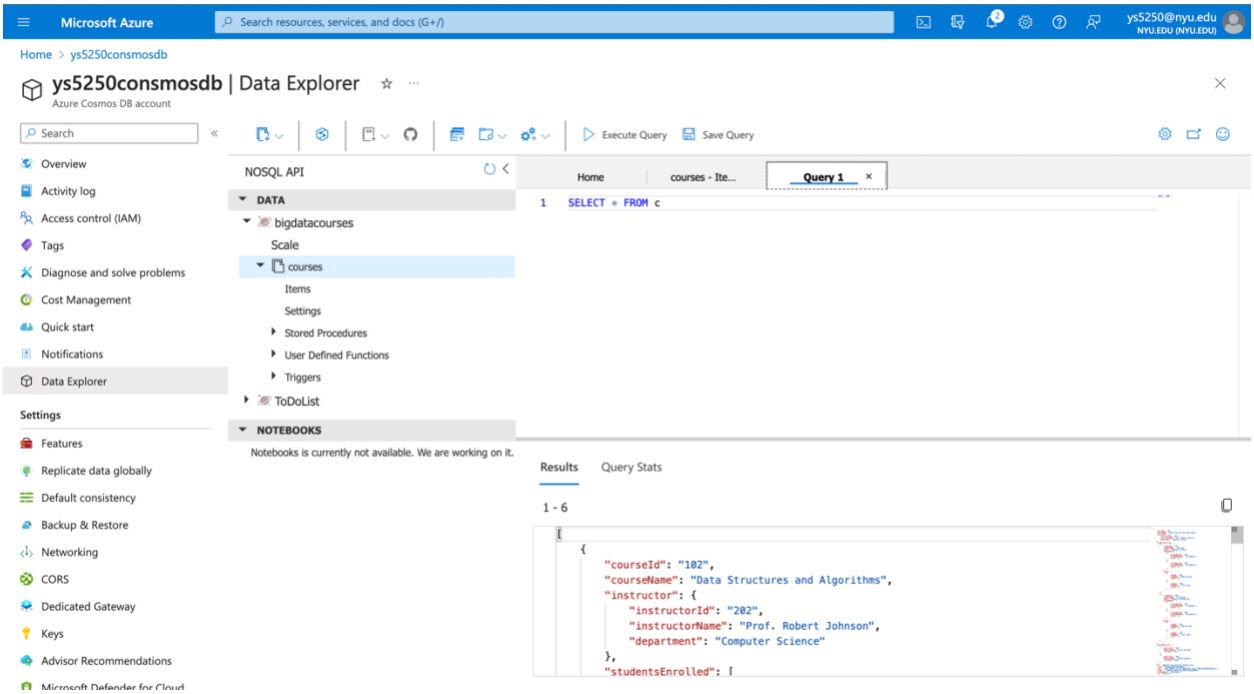
Fall’2023

Yogya Sharma

ys5250

GHW#3

Created database:

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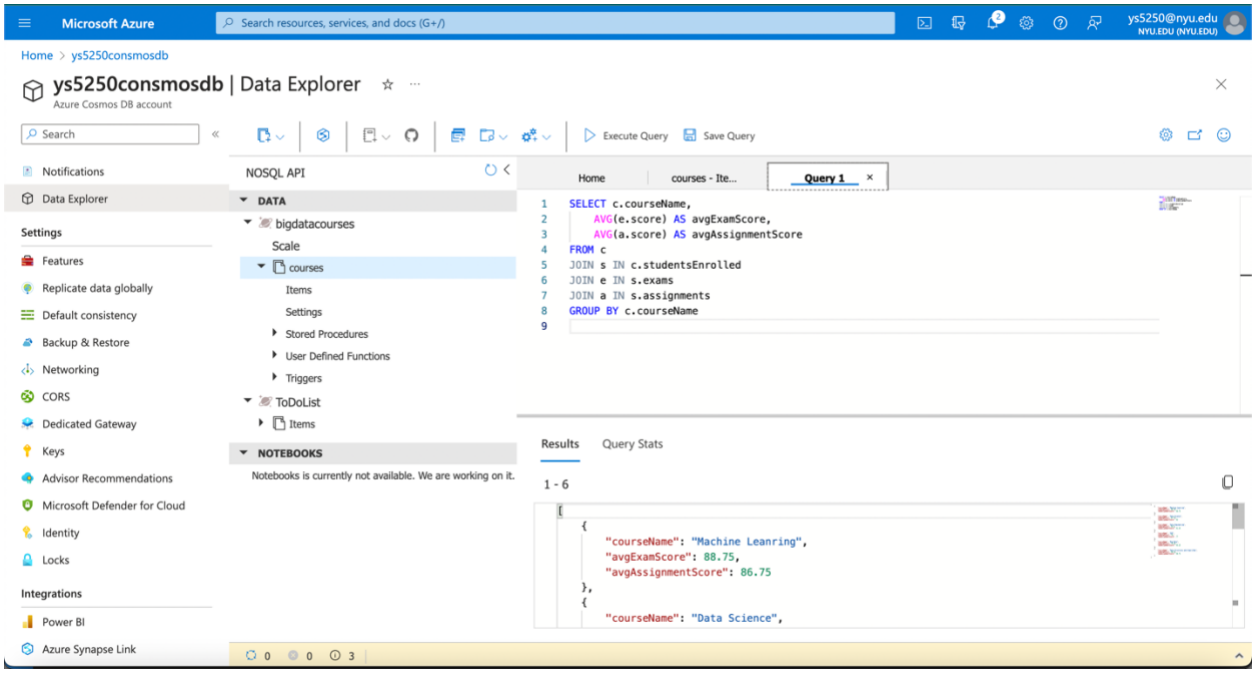
1. Fetch the course name and the average exam and average assignment score for all courses.



Output:


```
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    "avgExamScore": 76.25,
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    "avgAssignmentScore": 85.25
},
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    "avgExamScore": 90.25,
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}
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```
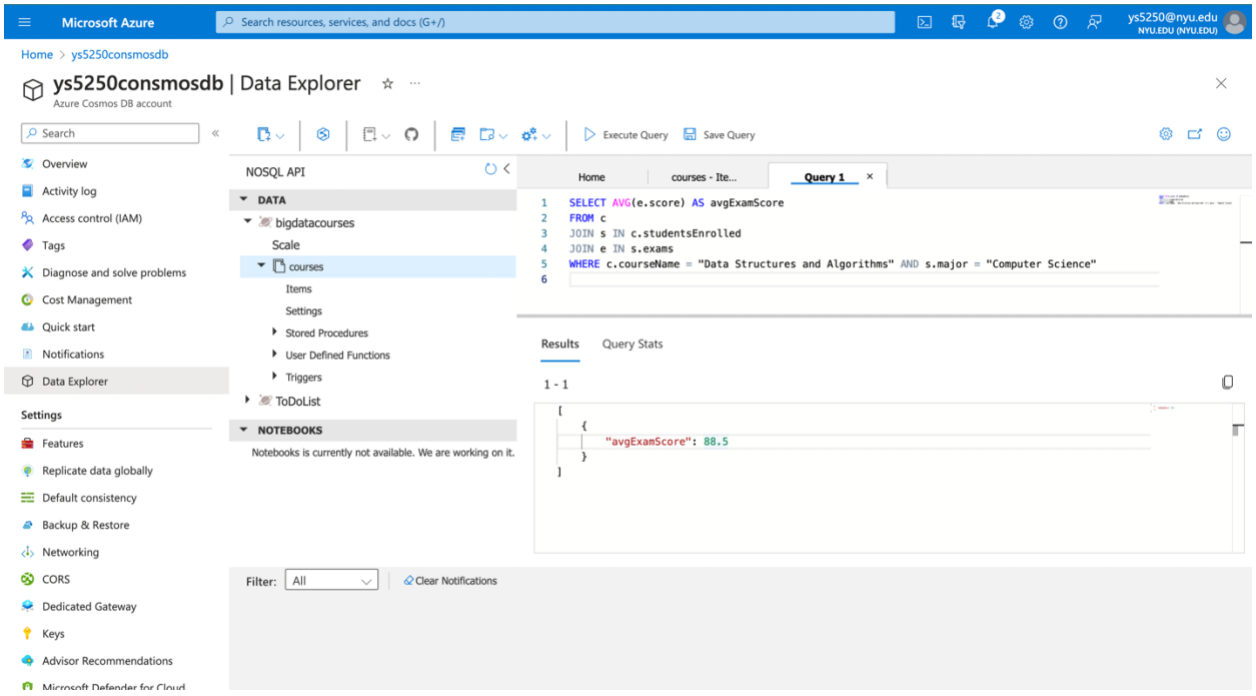

2. Calculate the average exam score for students majoring in "Computer Science" who are enrolled in the "Data Structures and Algorithms" course.



Output:


```
[
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```
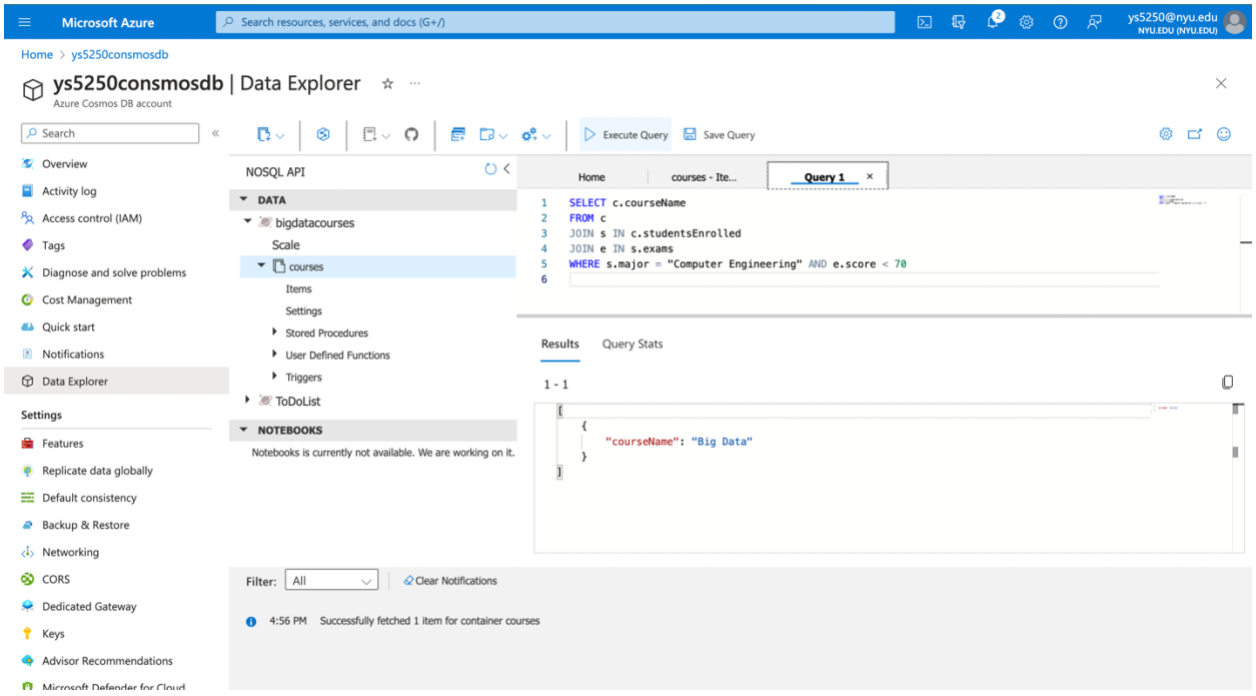

3. Find the courses where at least one student's major is "Computer Engineering" and they scored below 70 on exams.



Output:


```
[
  {
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```
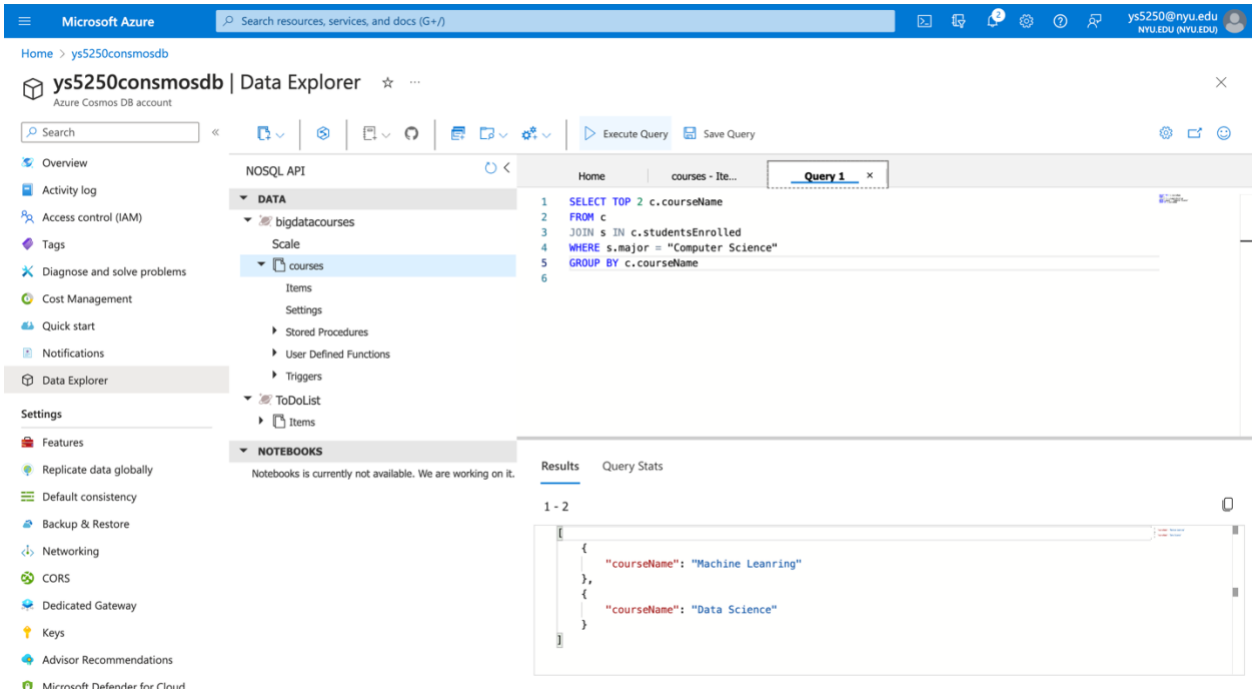

4. Select any two courses where there is at least one student's major that is "Computer Science" (There must be at least three students in different courses, who's major is Computer Science)



Output:


```
[
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    "courseName": "Data Science"
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```
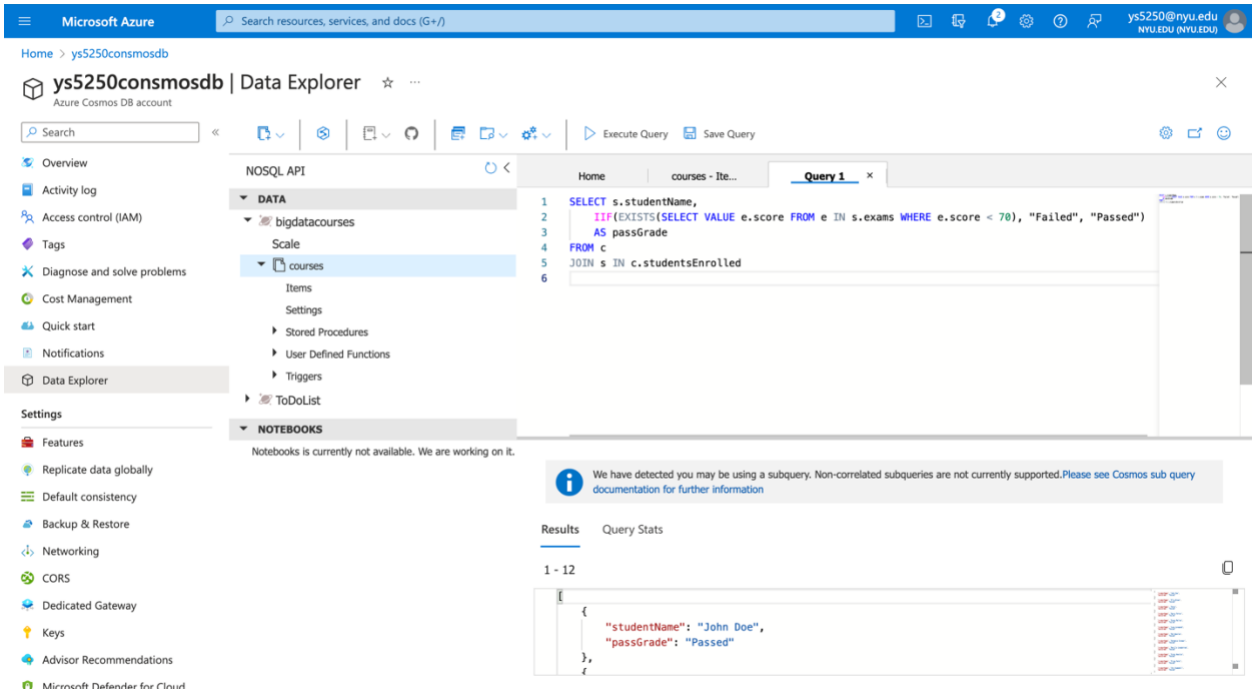

5. Calculate the overall pass grade (if they passed or failed) for each student, considering a passing grade as an exam score (exams) of 70 or higher. (Make sure at least one student fails in your database)



Output: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  {
    "studentName": "Harry Potter",
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    "passGrade": "Failed"
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        "passGrade": "Passed"
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Learning:

In this assignment I've gained valuable insights into the world of data modeling and querying using Azure Cosmos DB. The task revolved around creating a structured database for educational courses, instructors, and students, showcasing the importance of sound data modeling practices. I learned how to design a NoSQL database schema that accommodates complex relationships within the data. The assignment further improved my proficiency in crafting Cosmos DB queries to extract meaningful information from the dataset, including calculating averages, filtering data, and assessing pass/fail status based on exam scores. Understanding the data import and export process, involving Azure services like Azure Data Factory, proved invaluable for potential real-world data migration and analysis tasks.