

Question 1

30 pts

Consider the relational schema below:

```
Students(sid: integer, sname: string, major: string)
Courses(cid: integer, cname: string, hours: integer)
Enrollment(sid: integer, cid: integer, grade: real)
```

Write a **relational algebra expression** that satisfies this query?

- Find the distinct names of all students that take at least three courses and do not major in "Philosophy".

Submit your answer as a file attachment. You may write the answer in pencil and take a picture and submit that picture.

Be sure to put your name and a copy of the question into your submission file.

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Answer:

$$\pi_{\text{sname}} \left(\sigma_{\text{sid} \bowtie \text{count}(\text{cid}) \geq 3 \wedge \text{major} \neq \text{'Philosophy'}} (\text{Students} \bowtie \text{Enrollment}) \right)$$