

**Databases**  
**Spring 2023**  
**Lab 03**

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## Task 1

- a)  $\pi \text{ SID } (\sigma (\text{Class} = 1 \text{ OR } \text{Class} = 2) (\text{Courses}) \bowtie \text{Gradebook})$
- b)  $\pi \text{ SID } (\sigma (\text{Class}=1 \vee \text{Surname}='Valdez') (\text{Students} \bowtie (\text{Courses} \bowtie \text{Gradebook})))$
- c)  $\pi \text{ SID } (\sigma (\text{Class}=1 \wedge \text{Class}=2) (\text{Students} \bowtie (\text{Courses} \bowtie \text{Gradebook})))$
- d)  $\pi \text{ CID, SID } (\text{Gradebook}) \div \pi \text{ CID } (\text{Courses})$
- e)  $\sigma \text{ Class} = 3 (\text{Courses}) \bowtie \text{SID, CID } (\text{Gradebook})$
- f)
- g)  $\pi \text{ CID } (\sigma \text{ Class}=3 (\text{Courses}) \bowtie (\pi \text{ SID, CID } (\sigma \text{ Class}=3 (\text{Courses}) \bowtie \text{Gradebook})) \wedge 2)$

## Task 2

- a) Warren
- b) Warren
- c) None
- d) None