

Section 2.2 – Answers

1. No, because more than one Camosun College student can have the same name.
2. Yes. Each number is unique to each student.
3. Yes, because the social insurance number is unique to each individual.
4. No, because many people can live at the same street address.
5. No, because a person can have more than one bank account.
6. No, because most banks are large enough that two transactions could conceivably go through at the same time.
7. You could use the student name as a key if you don't have two students with the same name.
8. You could if each person's email address is unique (no two students share the same email.).
9. $\sigma_{\text{Branch} = \text{"Cadboro Bay"}}(\text{Account})$
10. $\pi_{\text{Customer Name, Type}}(\text{Account})$
11. $\sigma_{\text{Status} = \text{"Overdrawn"}}(\text{Activity})$
12. $\pi_{\text{Street Address}}(\text{Address})$
13. $\pi_{\text{Account Number, Branch}}(\text{Account})$
14. $\sigma_{\text{Branch} = \text{"Hillside"}}(\text{Address})$
15. $\text{Account} \bowtie \text{Address}$
16. $\text{Account} \bowtie \text{Activity}$
17. $\pi_{\text{Customer Name}}(\sigma_{\text{Status} = \text{"Dormant"}}(\text{Account} \bowtie \text{Activity}))$
18. $\pi_{\text{Balance}}(\sigma_{\text{Status} = \text{"Overdrawn"}}(\text{Account} \bowtie \text{Activity}))$
19. $\pi_{\text{Customer Name}}(\sigma_{\text{Type} = \text{"Chequing"}}(\text{Account}))$
20. $\pi_{\text{Balance}}(\sigma_{\text{Customer Name} = \text{"Ed"}}(\text{Account}))$
21. $\pi_{\text{Account Number, Street Address}}(\text{Account} \bowtie \text{Address})$
22. $\pi_{\text{Account Number, Street Address}}(\sigma_{\text{Status} = \text{"Dormant"}}((\text{Account} \bowtie \text{Address}) \bowtie \text{Activity}))$