

Assignment 4
Computer Science
Fall 2017
B461

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Answers

1. Find the bookno of each book that is cited by at least one book that cost less than \$50.

$$\pi_{C.CitedBookno}(\sigma_{B.Price < 50} (Cites \bowtie_{C.CitedBookno=B.Bookno} Book))$$

2. Find the bookno and title of each book that was bought by a student who majors in CS and in Math. Let Major1 be a copy of Major with schema $(sid, major)$.

$$\pi_{B.Bookno, B.Title}((Student \bowtie \sigma_{M.Major=Math \wedge M1.Major=CS}(Major \bowtie Major1))) \bowtie Buys \bowtie Book)$$

3. Find the sid-bookno pairs (s, b) pairs such student s bought book b and such that book b is cited by at least two books that cost less than \$50. Let Cites1 be a copy of Cites with schema (Bookno, CitedBookNo).

$$\pi_{CitedBookno}(\sigma_{Price < 50}(\sigma_{C.CitedBookno=C1.CitedBookno \wedge C.BookNo \neq C1.BookNo}(Cites \times Cites1) \bowtie Book)) \bowtie Buys$$