

## שאלות בגברה רלציונית/יחסית

1. Show all books in Stock

SELECT \* FROM book WHERE stock > 0

$\sigma_{stock > 0}(book)$

2. Show all opened book orders

SELECT \* FROM orders WHERE order\_status != 'Payed'

$\sigma_{order\_status \neq "Payed"}(orders)$

3. Show all clients

SELECT \* FROM costumer

$\sigma_{true}(costumer)$

4. Show all suppliers

SELECT \* FROM supplier

$\sigma_{true}(supplier)$

5. Show all book orders between 2 dates

SELECT \* FROM transaction WHERE transaction\_date BETWEEN **StartDate** AND **EndDate**

$\sigma_{transaction\_date \text{ BETWEEN } StartDate \text{ AND } EndDate}(transaction)$

6. Show all books in global discount

SELECT \* FROM book WHERE global\_discount\_presents > 0

$\sigma_{global\_discount\_presents > 0}(book)$

7. Check if book X is in Stock

SELECT \* FROM book WHERE book\_name = **Bookname**

$\sigma_{book\_name = Bookname}(book)$

8. Show all book X suppliers

SELECT \* FROM supplier\_supplies WHERE book\_name = **Bookname**

$\sigma_{book\_name = Bookname}(supplier\_supplies)$

9. Show sold copies of book X from Date

SELECT \* FROM contain INNER JOIN transaction ON contain.order\_id = transaction.order\_id WHERE contain.book\_name = **Bookname** AND contain.order\_date >= **Date**

$\sigma_{contain.book\_name = Bookname \text{ AND } contain.order\_date \geq Date}(contain \bowtie_{contain.order\_id = transaction.order\_id} transaction)$

10. Total purchased books for Date ordered by Costumer

SELECT \* FROM transaction WHERE costumer\_id = **CosID** AND transaction\_date >= **Date**

$\sigma_{costumer\_id = CosID \text{ AND } transaction\_date \geq Date}(transaction)$

11. Costumer who ordered the most books

SELECT costumer\_id FROM transaction WHERE transaction\_date >= **Date**

$\pi_{costumer\_id}(\sigma_{transaction\_date \geq Date}(transaction))$

SELECT \* FROM transaction WHERE transaction\_date >= **Date**

$\sigma_{transaction\_date \geq Date}(transaction)$

SELECT \* FROM costumer WHERE costumer\_id = **Index**

$\sigma_{costumer\_id = Index}(costumer)$

12. Supplier details whom ordered from the most books

SELECT supplier\_id FROM supply WHERE supply\_date >= **Date**

$$\pi_{supplier\_id}(\sigma_{supply\_date \geq Date}(supply))$$

SELECT \* FROM supply WHERE supply\_date >= **Date**

$$\sigma_{supply\_date \geq Date}(supply)$$

SELECT \* FROM supplier WHERE supplier\_id = **Index**

$$\sigma_{supplier\_id = Index}(supplier)$$

13. Number of all book orders made between Dates

SELECT \* FROM orders WHERE order\_date BETWEEN **StartDate** AND **EndDate**

$$\sigma_{order\_date \text{ BETWEEN } StartDate \text{ AND } EndDate}(orders)$$

14. Number of all book orders between Dates came to Payed

SELECT \* FROM orders WHERE order\_date BETWEEN **StartDate** AND **EndDate** AND order\_status = 'Payed'

$$\sigma_{order\_date \text{ BETWEEN } StartDate \text{ AND } EndDate \text{ AND } order\_status = "Payed"}(orders)$$

15. Total discount costumer Y get from Date

SELECT SUM(discount\_ils) as counter FROM transaction WHERE transaction\_date >= **StartDate** AND costumer\_id = **Id**

$$\rho_{(counter)}(\pi_{SUM}(discount\_ils)(\sigma_{transaction\_date \geq StartDate \text{ AND } costumer\_id = Id}(transaction)))$$

16. Total income of the store in Quarter X of this year

SELECT SUM(cost) as totalIn FROM transaction WHERE transaction\_date BETWEEN **StartDate** AND **EndDate**

$$\rho_{(totalIn)}(\pi_{SUM}(cost)(\sigma_{transaction\_date \text{ BETWEEN } StartDate \text{ AND } EndDate}(transaction)))$$

SELECT SUM(supply\_cost) as totalOut FROM supply WHERE supply\_date BETWEEN **StartDate** AND **EndDate**

$$\rho_{(totalOut)}(\pi_{SUM}(supply\_cost)(\sigma_{supply\_date \text{ BETWEEN } StartDate \text{ AND } EndDate}(supply)))$$

17. Amount of new clients added from Date

SELECT \* FROM costumer WHERE join\_date >= **Date**

$$\sigma_{join\_date \geq Date}(costumer)$$

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18. Sum of all orders from supplier between Dates

SELECT SUM(supply\_cost) AS counter FROM supply WHERE supplier\_id = **Id** AND supply\_date BETWEEN **StartDate** AND **EndDate**

$$\rho_{(counter)}(\pi_{SUM}(supply\_cost)(\sigma_{supplier\_id = Id \text{ AND } supply\_date \text{ BETWEEN } StartDate \text{ AND } EndDate}(supply)))$$

19. Total sales of an employee in the store between Dates

SELECT SUM(cost) AS counter FROM transaction WHERE emp\_id = **Id** AND transaction\_date BETWEEN **StartDate** AND **EndDate**

$$\rho_{(counter)}(\pi_{SUM}(cost)(\sigma_{emp\_id = Id \text{ AND } transaction\_date \text{ BETWEEN } StartDate \text{ AND } EndDate}(transaction)))$$

20. Show top 10 Best Sellers between Dates

SELECT book\_name FROM contain INNER JOIN transaction ON contain.order\_id = transaction.order\_id WHERE transaction.transaction\_date BETWEEN **StartDate** AND **EndDate**

$$\pi_{book\_name}(\sigma_{transaction.transaction\_date \text{ BETWEEN } StartDate \text{ AND } EndDate}(contain \bowtie_{contain.order\_id = transaction.order\_id} transaction))$$

SELECT book\_name, order\_id FROM contain INNER JOIN transaction ON contain.order\_id = transaction.order\_id WHERE transaction.transaction\_date BETWEEN **StartDate** AND **EndDate**

$$\pi_{book\_name, order\_id}(\sigma_{transaction.transaction\_date \text{ BETWEEN } StartDate \text{ AND } EndDate}(contain \bowtie_{contain.order\_id = transaction.order\_id} transaction))$$