QUESTIONS

1. Connect mySQL database by using Python.
2. *(10 points)* Create database and tables as given below by using Python.
   (a) BANK database
   (b) CUSTOMER: `customer_id` *integer*, `name` *varchar*, `lastname` *varchar*, `registration_date` *date*, `score` *integer*
   (c) BRANCH: `branch_id` *integer*, `branch_name` *varchar*, `cash_hold` *float*, `foundation_date` *date*, `liability` *float*
   (d) LOAN: `loan_id` *integer*, `customer_id` *integer*, `branch_id` *integer*, `amount` *float*

   Choose primary and foreign keys depending on the relations in MALL database design.
3. *(20 points)* Create arrays of at least 5 different records. Use these arrays to populate each table in the database.
4. *(30 points)* Apply the functions given below and print the results
   - $PRESTIGIOUS \leftarrow \sigma_{liability>1.50}(BRANCH)$
   - $MINI \leftarrow \sigma_{cash\_hold<50000}(BRANCH)$
   - $RESULT1 \leftarrow \pi_{branch\_name,liability}(PRESTIGIOUS)$
   - $RESULT2 \leftarrow (\pi_{branch\_name,liability}(MINI) \cup \pi_{branch\_name,liability}(PRESTIGIOUS))$
   - $RESULT3 \leftarrow \pi(CUSTOMER \times LOAN)$
   - $RESULT4 \leftarrow \pi(PRESTIGIOUS \bowtie_{branch\_id=branch\_id} LOAN)$
5. *(20 points)* Print the customer information and their amount of loans taken from non-prestigious branches.
6. *(20 points)* Define a function that reports the total amount of loans taken from the branches with respect to their foundation date. For example, the total loan amount for the banks founded in 1990 is 420000.

Note: Ensure that your programs are fully documented, using comments.