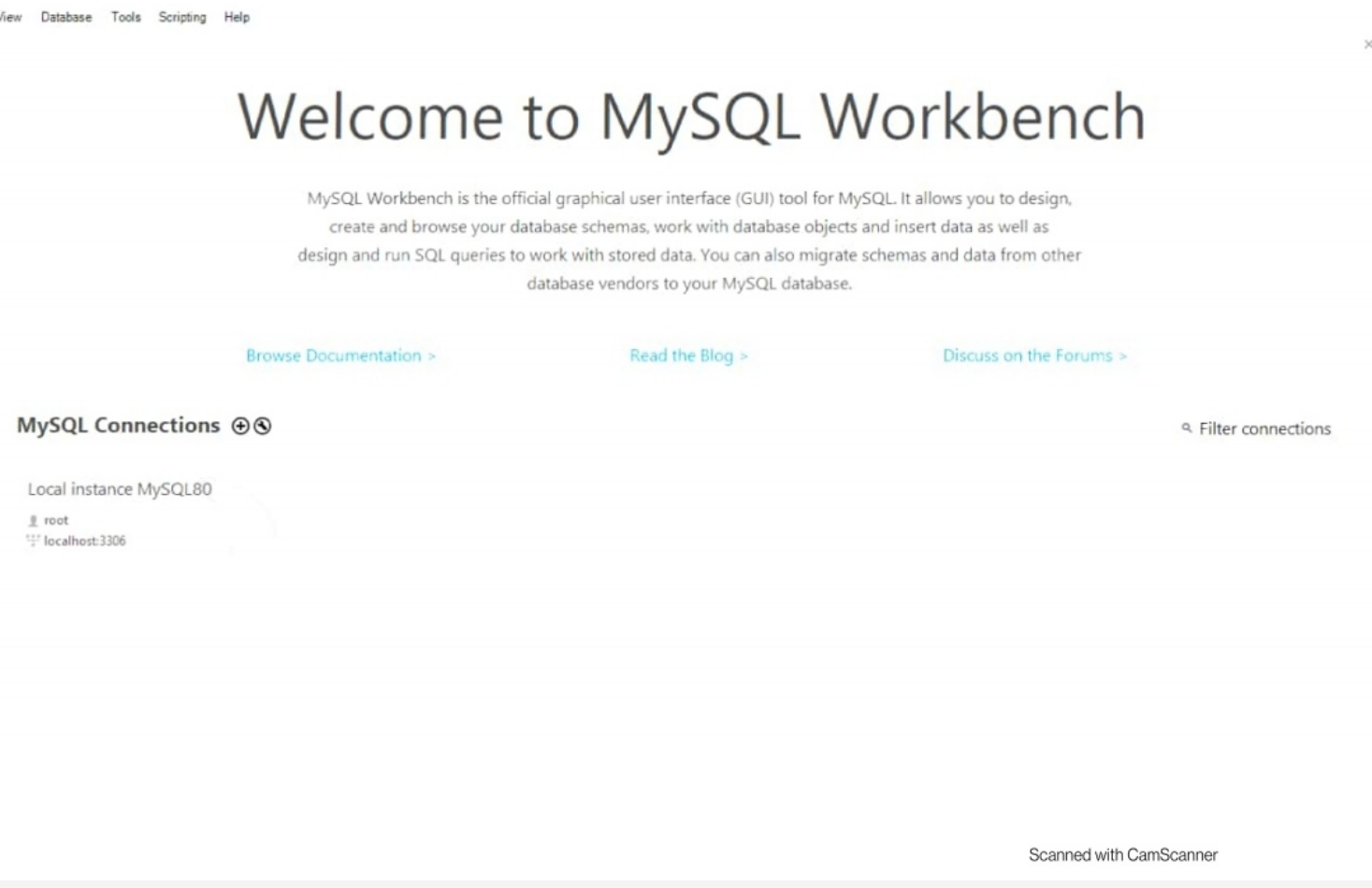

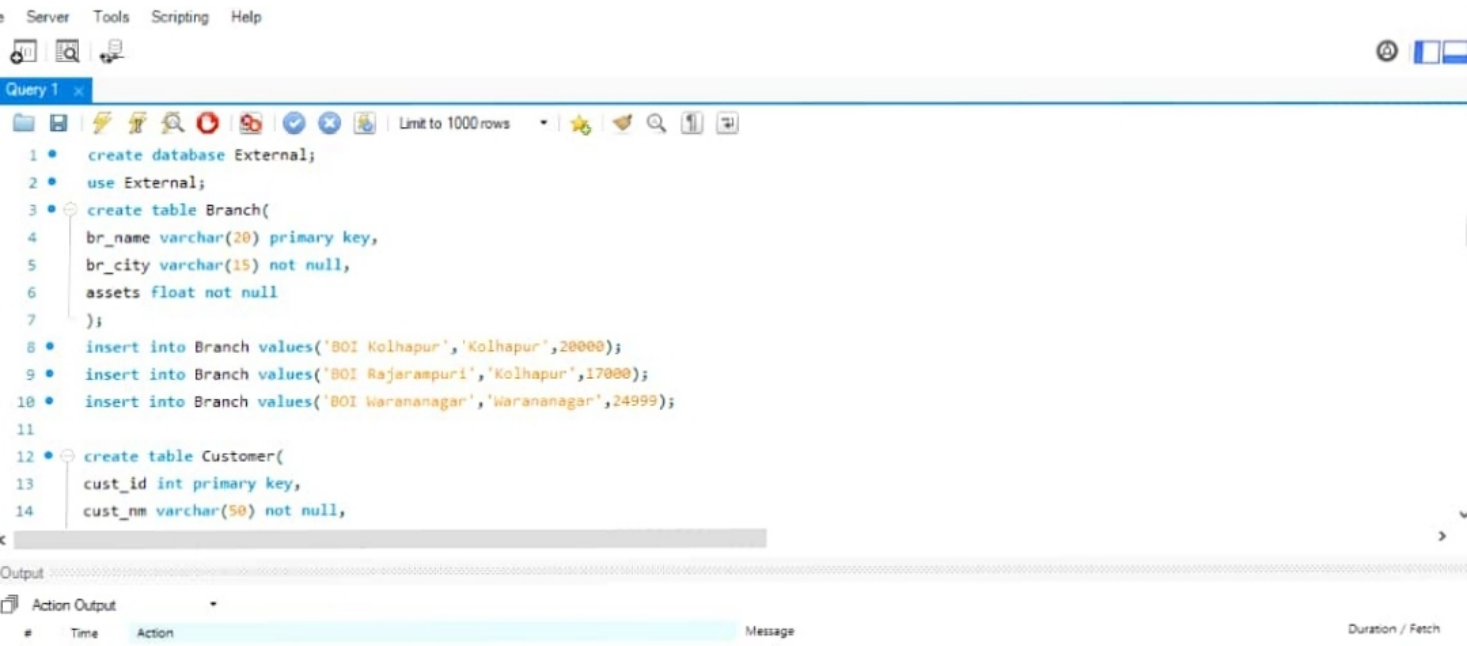

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Assignment - 1

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Shubham P. Patil

Q2. What four main types of actions involve' databases? Briefly discuss each

→ The DBMS is a software system that explains the four types of actions, which are defining, constructing, manipulating and sharing databases among various users and applications.

(1) Defining a database:
It includes the data types, structures and constraints of the data have to store in the database. The database descriptive information is also stored by the dbms is in form of a database catalog or dictionary.

(2) Constructing the database:
It is the process of data storing on some storage medium that is maintained by DBMS.

(3) Manipulating a database: It includes functions such as retrieve the database by using query updating the database to reflect changes in the system and generate reports from data.

(4) Sharing a database:

It allow multiple users and programs to access the database simultaneously

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Q3 Discuss the main characterstics of the database approach and how it differs from traditional file system.

→ In a traditional file processing system, each user defines & implements its own modifications to the file needed for a selected software application as a part of programming the appliance.

In the database approach, one repository maintains data which is defined once then accessed by various users in database.

- approach 1.

Self describing nature of a database system-

Database Management software can access various databases by extracting the database definitions or schemas from the catalog and using these definitions.

- approach 2-

Isolation between programs and data and data abstraction.

- In a file system traditional file is embded within the application programs so changes were difficult.

against this DBMS accesy programs dont require such changes in most cases so independence is achieved between them.

- Approach 3 -
  Support for multiple views of the data.
  - A database sometimes has many users each of whom may require a special perspective or view of database.

- Approach 4 -
  storing of knowledge & multiuser transaction processing -
  A multiuser DBMS as its name implies, must allow multiple users to access the database at an equivalent time or concurrently.

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Q4 Difference between controlled and uncontrolled redundancy.

- Redundancy is when the same fact is stored multiple times in several places in a database.
  - eg - say the name of the student with roll no = 8 is vish is stored multiple times.

- Redundancy is controlled when the dbms ensures that multiple copies of same data are consistent.

- If the DBMS has no control over this, we have uncontrolled redundancy.

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Q5 Specify all the records relationships among the records of the database shown in fig.

→

(a) each SECTION record is related to COURSE record.

(b) each GRADE_REPORT record is related to one STUDENT record and one SECTION record.

(c) each PREREQUISITE record relates two COURSE records: one in the role of course and the other in the role of prerequisite to that course.

Q6 Give examples of systems in which it may make sense to use traditional file processing instead of a database approach.

→ 1. Small internal utility to locate file.

2. Small single user application that does not require security. (phonebook, personal address)

(3) Real time navigation system (with heavy computation on real time data.