MYSQL LAB EXERCISE

MySQL Work

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Exercise description:
This work is personal and the student must submit the source code developed to the Virtual Campus website

Objectives
Learn how to access a MySQL database, look for database and table structure and visualize the content.
Learn how to query a MySQL database to extract data following a defined data need. Practice how to translate data query needs into SQL queries.

Querying MySQL

SQL queries described in this document can be executed in many ways.

Q0. Can you describe the series of steps to open a database for querying?

Q1. What is the purpose of this query?
SELECT * from Sources;

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Q2. Get 5 GenBank ids and corresponding descriptions

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Q3. What is the purpose of this query?
SELECT count(*) from LocusLinks;

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Q4. How many different Affy ids are in the expression data?

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Q5. What is the expression level of Affy id U95-32123_at in experiment number 1?

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Q6. Find all the gene descriptions, along with their GenBank ids containing the word "Human"?

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Q7. What Gene Ontology descriptions (and corresponding accession) contain the phrase "protein kinase"? Answer should be provided in ascending order of accessions.

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Q8. Which AffyId of table Data correspond to sequences in Targets table with the phrase "kinase" in their description?

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Q9. Get five affyId, uId and descriptions in LocusDescr in reverse alphabetical order of descriptions

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Q10. How would you find the average expression level of each experiment in Data?

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Q11. What is the average expression level of each array probe (affyId) across all experiments?

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Q12. What is the purpose of the following query?

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SELECT Data.affyId, Data.level, Data.exptId, DataCopy.affyId,
DataCopy.level, DataCopy.exptId
FROM Data, Data DataCopy
WHERE Data.level > 10 * DataCopy.level
AND Data.affyId=DataCopy.affyId
AND Data.affyId LIKE "AFFX%"
LIMIT 10;
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Q13. Write a query to provide three different descriptions for all gbId in table Targets

Q14. Write a query to provide all gene ontology (GO_descr) descriptions related with all species in table Species sorted alphabetically and providing the first five results