CSC 453 Database Technologies

Assignment 2

Part A - 33 points

Following the directions in the posted handout, create an Oracle Database Connection and paste a print screen with the Connection Details (Slide 66)

Part B - 33 points

Following the sample slides, import the data from the attached Excel spreadsheet, creating an Oracle table.
Enter and run the sample query, and paste the output.

Part C - 33 points

Create an entity-relationship diagram for the following situation:

```
Projects, Inc., is an engineering firm with approximately
500 employees. A database is required to keep track of
all employees, their skills, projects assigned, and departments
worked in. Every employee has a unique number
assigned by the firm and is required to store his or her
name and date of birth. If an employee is currently married
to another employee of Projects, Inc., the date of
marriage and who is married to whom must be stored;
however, no record of marriage is required if an employee's
spouse is not also an employee. Each employee is
given a job title (e.g., engineer, secretary, and so on). An
employee does only one type of job at any given time,
and we only need to retain information for an employee's
current job.

There are 11 different departments, each with a unique
name. An employee can report to only 1 department.
Each department has a phone number.

To procure various kinds of equipment, each department
deals with many vendors. A vendor typically supplies
equipment to many departments. We are required
to store the name and address of each vendor and the
date of the last meeting between a department and a
vendor.

Many employees can work on a project. An employee
can work on many projects, but can only be assigned to at
most one project in a given city.
For each city,we are interested in its state and population.
An employee can have many skills, but she or he may use only
a given set of skills on a particular project.
Employees use each skill that they possess in at least one project.
Each skill is assigned a number, and we must store a short
description  of each skill. Projects are distinguished by project
numbers, and we must store the estimated cost of each project.
```

Use the format in the sample ERD included here, with entities in boxes and **including attribute names**.
Do not use the original Chen format used in the text.

Unless you have a vested interest in learning a particular tool, feel free to use any software you are familiar with.
Microsoft's Visio should be available for free via DreamSpark, and may be available in the CDM labs (haven't checked).
If you prefer PowerPoint, and it does not work in terms of putting the entire diagram on one slide, portions could be done in PowerPoint, with a copy & paste into Word.

Do not be concerned about a fully normalized design, but all needed attributes should be included. Identifiers should be highlighted (bold and underlined) and required fields displayed in bold,
Cardinality constraints (e.g. one-to-many relationships) are required.

If using Visio, Crow's foot notation should be used on the connectors
Use your judgment on whether the minimum cardinality connector should be mandatory or optional.

Submissions **must** be created electronically - **no** hand-drawn diagrams will be accepted for credit.

Please create a JPEG/PNG/PDF for your solution as I may not be able to open other proprietary formats (including Visio).

Post your solution in D2L.