# Assessment Task Instructions

There are three parts to this assessment and they must be completed in order. You should provide the following evidence in your assessment submission.

1. Normalised structure
2. Entity Model
3. Data Dictionary
4. SQL scripts with screen shots of working script

**Assessment 1**

**Outcome covered 1**

**Assessment instructions**

You are required to assist with the design of a database which will hold information about international students attending college in Scotland. Note that a student must only be recorded as ‘P’ for Pass or ‘F’ for fail for achievement. A staff member in the table below is the supervisor of several courses across the faculty. As can be seen in the standard notation in the table below, the indented UNF student group is a repeating group.

To achieve this assessment you must carry out the following three tasks.

**Task 1**

You are required to normalise the following complex structure to 3NF

CourseNo

CourseName

StaffNo

StaffSurname

StaffForename

Salary

StudentNo

Surname

Forename

Title

DateofBirth

Result

**Task 2**

You are required to construct a data model derived from the 3NF relations above.

**Task 3**

You are required to produce a data dictionary for the entities in the data model. The format should be similar to the one on the next page. There should be a completed table for each entity in your database.

**Data dictionary**

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity description** | | | |
| **Database:** International Students | | | |
| **Author:** | | **Date:** | |
| **Entity name:** | | | |
| **Description:** | | | |
| **Key** | **Attribute** | **Data type** | **Constraints/comments** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Assessment 2**

**Outcome covered 2**

**Assessment instructions**

To achieve this assessment you must carry out the following three tasks.

**Task 1**

Using SQL statements, create the table structures conforming to the data dictionary created in Outcome 1. Include primary keys within the tables. Print out the SQL statements used.

**Task 2**

Use SQL statements to populate the tables with the following records and print the SQL statements used.

Staff Table

|  |  |  |  |
| --- | --- | --- | --- |
| **StaffNo** | **StaffSurname** | **StaffForename** | **Salary** |
| SNO111 | Jones | Jack | £45,000.00 |
| SNO154 | Singh | Raj | £50,000.00 |
| SNO212 | Campbell | Janet | £34,500.00 |
| SNO122 | Chandler | Wendy | £54,000.00 |
| SNO144 | Reilly | Leonard | £25,000.00 |
| SNO156 | Simone | Louise | £28,000.00 |
| SNO034 | Jason | Paul | £32,000.00 |
| SNO121 | Smith | Freda | £26,000.00 |
| SNO236 | Forbes | Sarah | £22,000.00 |
| SNO321 | Liu | Chens | £35,000.00 |
| SNO123 | Thomas | Jackie | £22,000.00 |
| SNO244 | Ma | Jack | £75,000.00 |
| SNO104 | Singh | Brenda | £32,000.00 |
| SNO342 | Jeffreys | Ann | £32,000.00 |
| SNO276 | Li | Jet | £78,000.00 |

Student Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **StudentNo** | **Surname** | **Forename** | **Title** | **DateofBirth** |
| L0001234 | Fong Kuan Yew | Kent | Mr | 07/09/1994 |
| L0002113 | Trinh | Thi | Mr | 10/08/1988 |
| L0003541 | Nam | Bui | Mr | 12/01/1988 |
| L0006452 | Lu | Fang | Mr | 14/06/1995 |
| L0001145 | Lin | Long | Miss | 03/01/1994 |
| L0007632 | Lin | Shaohong | Miss | 18/06/1995 |
| L0003234 | Zhang | Yi | Mr | 20/11/1994 |
| L0002323 | Ma | Zepu | Mr | 06/10/1995 |
| L0003322 | Nguyen Thi Thu | Amy | Miss | 23/11/1993 |

Course Table

|  |  |  |
| --- | --- | --- |
| **CourseNo** | **CourseName** | **StaffNo** |
| C000111 | HND Software Development | SNO111 |
| C000122 | HND Creative Digital Media | SNO154 |
| C000123 | Advanced Diploma Games Development | SNO212 |
| C000133 | Diploma Mathematics and Statistics | SNO122 |
| C000156 | HND Accountancy | SNO144 |
| C000213 | HND Chemistry | SNO156 |
| C000215 | HND Business Studies | SNO104 |
| C000232 | HND Applied Mathematics | SNO121 |

Result Table

|  |  |  |
| --- | --- | --- |
| **CourseNo** | **StudentNo** | **Result** |
| C000111 | L0001234 | P |
| C000122 | L0002113 | F |
| C000123 | L0003541 | P |
| C000133 | L0006452 | F |
| C000156 | L0001145 | P |
| C000213 | L0007632 | F |
| C000215 | L0003234 | P |
| C000232 | L0002323 | P |
| C000232 | L0003322 | P |

**Task 3**

Modify the STUDENT table to remove the title information from each record.

Print the SQL statement used.

**Assessment 3**

**Outcome covered 3**

**Assessment instructions**

To achieve this assessment you must carry out the following SQL queries.

1 All staff members who earn more than £35,000, listed by order of surname. Format the query response by demonstrating your knowledge of using alternative headings for the columns displayed.

2 Did student, L0002323, Zepu Ma pass his course? Print out the query and the response.

3 Delete the following staff members — SNO236, Sarah Forbes and SNO244, Jack Ma. Print out the query.

4 Print a copy of the staff table using alternative headings for the columns displayed.

5 What courses are members of staff responsible for? Information required is the staff member’s name, course number and course name. Print out the query and the answer.

6 All members of staff have been awarded a pay rise of 5%. Update the records to reflect this and print the new salaries.

7 What is the average salary for members of staff? Print out the query and the answer.

8 What is now the total pay bill for all members of staff? Print out the query and the answer.