**Normalisation**

**UNF – StudentLetter**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Value one | Value two | Value three | Value four |
| Business name | Ace training |  |  |  |
| Business address | Liverpool Technology park |  |  |  |
| Business post code | L15 6BE |  |  |  |
| Course | Database Technology | Operating systems |  |  |
| Tutor name | Dr. Julie Henderson | Dr. Peter Williams |  |  |
| Tutor e-mail | [hendersonh@acetraining.co.uk](mailto:hendersonh@acetraining.co.uk) | [williamsp@acetraining.co.uk](mailto:williamsp@acetraining.co.uk) |  |  |
| Tutor phone number | 0151 233 3325 | 0151 233 3311 |  |  |
| Student ID | 58547 |  |  |  |
| Student name | Peter Parker |  |  |  |
| Address | 34 Derby Way, Liverpool |  |  |  |
| Postcode | L34 5WE |  |  |  |
| Start Date | 13/01/2014 | 20/01/2014 |  |  |
| Duration | 11 weeks | 6 weeks |  |  |
| Weekly Sessions | Monday 9am | Wednesday 9am | Monday 2pm | Tuesday 10am |
| Location | RM201 | RM201 | LB211 | LB101 |
| Paid | £1,000 | £1,000 |  |  |
| Cost | £3,500 | £1,900 |  |  |

**1NF – StudentLetter**  
At this stage we need to split our table into two different tables the first one is our table that doesn’t have any repeating attributes the second one has all our repeating attributes in it. After we spilt then we move the primary key from the first table to the second on this allows us to show they are linked together.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Value one | Value two | Value three | Value four |
| Student ID | 58547 |  |  |  |
| Student Name | Peter Parker |  |  |  |
| Address | 34 Derby Way, Liverpool |  |  |  |
| Post code | L34 5WE |  |  |  |
| Business Name | Ace training |  |  |  |
| Business address | Liverpool Technology park |  |  |  |
| Business post code | L15 6BE |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Value one | Value two | Value three | Value four |
| Student ID | 58547 |  |  |  |
| Course | Database Technology | Operating Systems |  |  |
| Tutor name | Dr. Julie Henderson | Dr Peter Williams |  |  |
| Tutor e-mail | [hendersonh@acetraining.co.uk](mailto:hendersonh@acetraining.co.uk) | [williamsp@acetraining.co.uk](mailto:williamsp@acetraining.co.uk) |  |  |
| Tutor phone number | 0151 233 3325 | 0151 233 3311 |  |  |
| Start Date | 13/01/2014 | 20/01/2014 |  |  |
| Duration | 11 weeks | 6 weeks |  |  |
| Weekly Sessions | Monday 9am | Wednesday 9am | Monday day 2pm | Tuesday day 10am |
| Location | RM201 | RM201 | LB211 | LB101 |
| Paid | £1,000 | £1,000 |  |  |
| Cost | £3,500 | £1,900 |  |  |

**2NF –StudentLetter**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Business name | Business address | Business post code | Course | Tutor name | Tutor e-mail | Tutor phone number | Student ID | Student name | Address | Post code | Start Date | Duration | Weekly Sessions | Location | Paid | Cost |

At this stage we are checking for key dependency then we spilt then into the right about of tables needed to show what is dependent on what is important here is that all non key attribute is fully functionally dependent on the primary key.

Business (Business name, Student ID, Business address, Business post code)  
Course (Student ID, Course, Tutor name, Tutor e-mail, Tutor phone number, Start Date, Duration, Weekly Sessions, Location, Paid, Cost)  
Student(StudentID, Student Name, Address, Post code)

**3NF – StudentLetter**

In this stage we check the non-key attributes and see if they are dependent on the primary key if they are related to the primary key then they stay in the same table but if they are independent then they will be moved to another table.

|  |  |
| --- | --- |
| Business Name | Ace training |
| Business address | Liverpool Technology park |
| Business post code | L15 6BE |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course | Database Technology | Operating Systems |  |  |
| Tutor name | Dr. Julie Henderson | Dr Peter Williams |  |  |
| Tutor e-mail | [hendersonh@acetraining.co.uk](mailto:hendersonh@acetraining.co.uk) | [williamsp@acetraining.co.uk](mailto:williamsp@acetraining.co.uk) |  |  |
| Tutor phone number | 0151 233 3325 | 0151 233 3311 |  |  |
| Student ID | 58547 |  |  |  |
| Start Date | 13/01/2014 | 20/01/2014 |  |  |
| Duration | 11 weeks | 6 weeks |  |  |
| Weekly Sessions | Monday 9am | Wednesday 9am | Monday day 2pm | Tuesday day 10am |
| Location | RM201 | RM201 | LB211 | LB101 |
| Cost | £3,500 | £1,900 |  |  |

|  |  |  |
| --- | --- | --- |
| Student ID | 58547 |  |
| Student Name | Peter Parker |  |
| Address | 34 Derby Way, Liverpool |  |
| Post code | L34 5WE |  |
| Paid | £1,000 | £1,000 |