|  |  |  |  |
| --- | --- | --- | --- |
| **NF0** | **NF1** | **NF2** | **NF3** |
| Student\_ID @  Student\_Name  Section  Total\_Mark  Student\_Sheet  (Exam\_ID  Exam\_Name  Exam\_Date  Subject  Result\_Sheet  Teacher\_ID  Username  Password)\* | **Student** | **Student** | **Student** |
| Student\_ID @  Student\_Name  Section  Total\_Mark  Student\_Sheet  Exam\_ID !  Teacher\_ID ! | Student\_ID @  Student\_Name  Section  Total\_Mark  Student\_Sheet  Exam\_ID !  Teacher\_ID ! | Student\_ID @  Student\_Name  Section  Exam\_ID !  Teacher\_ID ! |
| **Exam** | **Student - Exam** | **Student - Exam** |
| Exam\_ID @  Exam\_Name  Exam\_Date  Subject  Result\_Sheet  Teacher\_ID  Username  Password | Student\_ID !  Exam\_ID !  Subject | Student\_ID !  Exam\_ID !  Subject |
| **Exam** | **Exam** |
| Exam\_ID @  Exam\_Name  Exam\_Date  Result\_Sheet  Teacher\_ID ! | Exam\_ID @  Exam\_Name  Exam\_Date  Teacher\_ID ! |
| **Teacher** | **Teacher** |
| Teacher\_ID @  Username  Password | Teacher\_ID @  Username  Password |
| **Student-Teacher** |
| Teacher\_ID !  Student\_ID !  Result\_Sheet  Total\_Mark  Student\_Sheet |

ER:

|  |
| --- |
| **Teacher** |
| Teacher\_ID @  Username  Password |

|  |
| --- |
| **Student** |
| Student\_ID @  Student\_Name  Section  Exam\_ID !  Teacher\_ID ! |

|  |
| --- |
| **Student-Teacher** |
| Teacher\_ID !  Student\_ID !  Result\_Sheet  Total\_Mark  Student\_Sheet |

|  |
| --- |
| **Student - Exam** |
| Student\_ID !  Exam\_ID !  Subject |

|  |
| --- |
| **Exam** |
| Exam\_ID @  Exam\_Name  Exam\_Date  Teacher\_ID ! |

**3.3.1 Table Structure**

i. Table Name: Student

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field Name** | **Data Type** | **Field Size** | **Constraints** | **Description** |
| Student\_ID | Varchar2 | 8 | Contain 1 letter | Primary Key |
| Student\_Name | Character | 30 | Not Null |  |
| Section | Number | 2 | Not Null |  |
| Exam\_ID | Number | 4 | Not Null | Foreign Key |
| Teacher\_ID | Number | 4 | Not Null | Foreign Key |

ii. Table Name: Teacher

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field Name** | **Data Type** | **Field Size** | **Constraints** | **Description** |
| Teacher\_ID | Number | 4 | Not Null | Primary Key |
| Username | Character | 30 | Not Null |  |
| Password | Number | 10 | Not Null |  |

iii. Table Name: Exam

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field Name** | **Data Type** | **Field Size** | **Constraints** | **Description** |
| Exam\_ID | Number | 4 | Not null | Primary Key |
| Exam\_name | Varchar2 | 10 |  |  |
| Exam\_Date | Date | 10 | dd-mm-yyyy |  |
| Teacher\_ID | Number | 4 | Not Null | Foreign Key |

iv. Table Name: Student - Exam

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field Name** | **Data Type** | **Field Size** | **Constraints** | **Description** |
| Student\_ID | Varchar2 | 8 | Contain 1 letter | Foreign Key |
| Exam\_ID | Number | 4 | Not null | Foreign Key |
| Subject\_name | Varchar2 | 20 |  |  |

v. Table Name: Student - Teacher

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field Name** | **Data Type** | **Field Size** | **Constraints** | **Description** |
| Teacher\_ID | Number | 4 | Not Null | Foreign Key |
| Student\_ID | Varchar2 | 8 | Contain 1 letter | Foreign Key |
| Result\_Sheet | Image |  |  | PDF format |
| Total\_mark | Number | 3 |  |  |
| Student\_ Sheet | Image | 100 |  | PDF format |