**CODD’S NORMAL FORMS**

**Student’s Relation**

|  |  |
| --- | --- |
| **Fields** | **Data Types** |
| Registration\_number | Integer (PK) |
| Name | String |
| Gender | String/varchar |
| D.O.B | Date/Time |
| Age | Integer |
| Home County | String |
| National\_ID\_or\_Passport | Integer |

**Student’s Contact**

|  |  |
| --- | --- |
| **Fields** | **Data Types** |
| Registration\_number | Integer (FK) |
| Main\_Contact | Integer |
| Other\_contacts | Integer |
| Main\_E-mail\_Address | String |
| Other\_E-mail\_address | String |

**Finance Relation**

|  |  |
| --- | --- |
| **Fields** | **Data Types** |
| Registration\_number | Integer (FK) |
| Amount paid | Integer |
| Payment reference | String |
| Date of payment | Date/Time |

**Modes of Payment**

|  |  |
| --- | --- |
| **Fields** | **Data Types** |
| Registration\_number | Integer |
| Mode of payment | String |

**Parent’s/Guardian’s Relation**

|  |  |
| --- | --- |
| **Fields** | **Data Types** |
| Registration\_number | Integer |
| Name | String |
| Main\_Contact | Integer |
| Other\_Contact | Integer |
| Main\_E-mail\_address | String |
| Other\_E-mail\_address | String |

**Course Relation**

|  |  |
| --- | --- |
| **Fields** | **Data Types** |
| Course\_ID | Integer (PK) |
| Registration\_number | Integer |
| Course | String |
| Mode of study | String |
| Academic year | String |

**Department relation**

|  |  |
| --- | --- |
| **Fields** | **Data Types** |
| ID | Integer (PK) |
| Course\_ID | Integer (FK) |
| Department | String |
| Faculty/School | String |

1. **Contacts table** eliminates redundancy and multivalued (other contacts) from **student’s table** thus unique records for student’s table.
2. Modes of payments is multivalued field, payments can take two modes for a single student instantaneously
3. To eliminate functional dependency (3NF) between department and course fields, a new relation department is paramount.
4. The relationship between **Parent’s/ Guardians relation** and **Students Relation** is One to many, a single parent can have many students. Students BelongsTo parents. The existance of the relation ensures that 1,2, AND 3rd Normal forms are obeyed.