**Topic: Wellness Clinic Medical Group**

**Project Report: Relational Schema Design for Medical Facility Database**

**University of Colorado Denver**

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**Submitted to**

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**Introduction:**

This report outlines the design and implementation of a medical Facility database using oracle. The schema is set up to handle patient data, appointments, billing, medical staff information, and other relevant data in an effective manner.

**Schema Overview:**

**Table 1: Staff**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Staff\_ID | INT | PRIMARY KEY |
| Name | VARCHAR2(100) |  |
| Staff\_Type | VARCHAR2(100) |  |
| Specialization | VARCHAR2(100) |  |
| Type\_of\_Staff | VARCHAR2(100) |  |

**Table 2: Patient\_Details**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Patient\_ID | INT | PRIMARY KEY |
| Contact\_Details | VARCHAR2(100) |  |
| Medical\_History | VARCHAR2(100) |  |
| Guardian\_Name | VARCHAR2(100) |  |
| Insurance\_Details | VARCHAR2(100) |  |

**Table 3: Appointment**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Appointment\_ID | INT | PRIMARY KEY |
| Patient\_ID | INT | FOREIGN KEY (References Patient\_Details.Patient\_ID) |
| Appointment\_Date | DATE |  |

**Table 4: Coverage\_Schedule**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Schedule\_ID | INT | PRIMARY KEY |
| Schedule\_Time | TIMESTAMP |  |
| Staff\_ID | INT | FOREIGN KEY (References Staff.Staff\_ID) |

**Table 5: Patient\_Monthly\_Details**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Statement\_ID | INT | PRIMARY KEY |
| Patient\_ID | INT | FOREIGN KEY (References Patient\_Details.Patient\_ID) |
| Balance | DECIMAL(10, 2) |  |
| Payments\_Received | DECIMAL(10, 2) |  |

**Table 6: Daily\_Laboratory\_Log**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| ID | INT | PRIMARY KEY |
| Log\_Date | DATE |  |
| Records | VARCHAR2(100) |  |

**Table 7: Master\_Schedule**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Practitioner\_ID | INT | PRIMARY KEY |
| Patient\_ID | INT | FOREIGN KEY (References Patient\_Details.Patient\_ID) |
| Visit\_Date | DATE |  |

**Table 8: Walk\_ins**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Insurance\_Provider | VARCHAR2(100) |  |
| Insurance\_ID | INT | PRIMARY KEY |
| Visit\_ID | INT | FOREIGN KEY (References Master\_Schedule.Practitioner\_ID) |
| Type\_of\_Visit | VARCHAR2(100) |  |

**Table 9: Operating\_Log**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Log\_ID | INT | PRIMARY KEY |
| Log\_Date | DATE |  |
| Surgery\_Details | VARCHAR2(100) |  |

**Table 10: Operating\_Room\_Schedule**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Schedule\_ID | INT | PRIMARY KEY |
| Schedule\_Date | DATE |  |
| Surgery\_Info | VARCHAR2(100) |  |

**Table 11: Delivery\_Log**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Log\_ID | INT | PRIMARY KEY |
| Delivery\_Information | VARCHAR2(100) |  |
| Delivery\_Date | DATE |  |

**Table 12: Recovery\_Room\_Log**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Log\_ID | INT | PRIMARY KEY |
| Recovery\_Details | VARCHAR2(100) |  |
| Recovery\_Date | DATE |  |

**Table 13: Monthly\_Activity\_Log**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Report\_ID | INT | PRIMARY KEY |
| Month\_Year | VARCHAR2(50) |  |
| Activity\_Centric\_Details | VARCHAR2(100) |  |

**Table 14: Facility**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Facility\_ID | INT | PRIMARY KEY |
| Type\_of\_Facility | VARCHAR2(100) |  |

**Table 15: Prescription**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Rx\_Number | INT | PRIMARY KEY |
| Patient\_ID | INT | FOREIGN KEY (References Patient\_Details.Patient\_ID) |
| Doctor\_Name | VARCHAR2(100) |  |
| Total\_Price | DECIMAL(10, 2) |  |
| Balance\_Due | DECIMAL(10, 2) |  |

**Table 16: Payments**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Constraints** |
| Payment\_ID | INT | PRIMARY KEY |
| Patient\_ID | INT | FOREIGN KEY (References Patient\_Details.Patient\_ID) |
| Payment\_Date | DATE |  |
| Amount | DECIMAL(10, 2) |  |
| Payment\_Method | VARCHAR2(50) |  |

**Relationships:**

1. Staff - Coverage Schedule (One to Many).
2. Patient - Appointment (One to Many).
3. Patient - Patient Monthly Statement (One to Many).
4. Practitioner - Provider's Statement (One to Many).
5. Professional Staff - Appointment (One to Many).

**Operation of Visits:**

1. **Appointment Scheduling:** The first step involves a patient calling in to schedule a visit.
2. **Conducting Visits**: The visits are conducted by professional staff and each visit is associated to a patient and a staff member.
3. **Room Allocation:** Visits may use one or more rooms for consultations, examinations, or procedures.
4. **Referrals:** Visits may result in referrals to other healthcare providers, recorded within the Visit table or a separate Referral table.
5. **Charges and Payments:** Visits incur charges for services provided, recorded in tables such as Billing or Payments, including details of services rendered, costs, and payment status.
6. **Prescriptions and Diagnostics:** A visit may result in prescriptions for drugs or lab work, which are recorded in the Prescription table together with any diagnostic procedures and tests carried out during the appointment.

**Conclusion:**

The patient data, appointments, staff information, and other critical data are efficiently managed using the relational structure created for the medical facility database. The facility can effectively arrange appointments, carry out visits, manage resources, and keep correct records of the medical services rendered by adhering to the described schema and operation processes.

**Screenshots:**

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