DBMS ASSIGNMENT: EMPLOYEE HEALTH AND WELLNESS PROGRAM

An employee health and wellness program database aim to efficiently manage various aspects of an organization's health and wellness initiatives for its employees.

REVELANCE:

Employee Health and Well-being

Office environments often involve sedentary work and high levels of stress, which can negatively impact employee health. Health and wellness programs provide resources and support to help employees maintain physical fitness, manage stress, and improve overall well-being.

Reduced Healthcare Costs

By promoting preventive care and healthy lifestyles, health and wellness programs can help reduce healthcare costs for both employees and employers. Healthy employees are less likely to develop chronic conditions and require medical treatment, leading to lower healthcare expenses.

Increased Productivity

Healthy employees are more productive. Health and wellness programs can improve employee energy levels, concentration, and cognitive function, leading to higher levels of productivity and performance in the workplace.

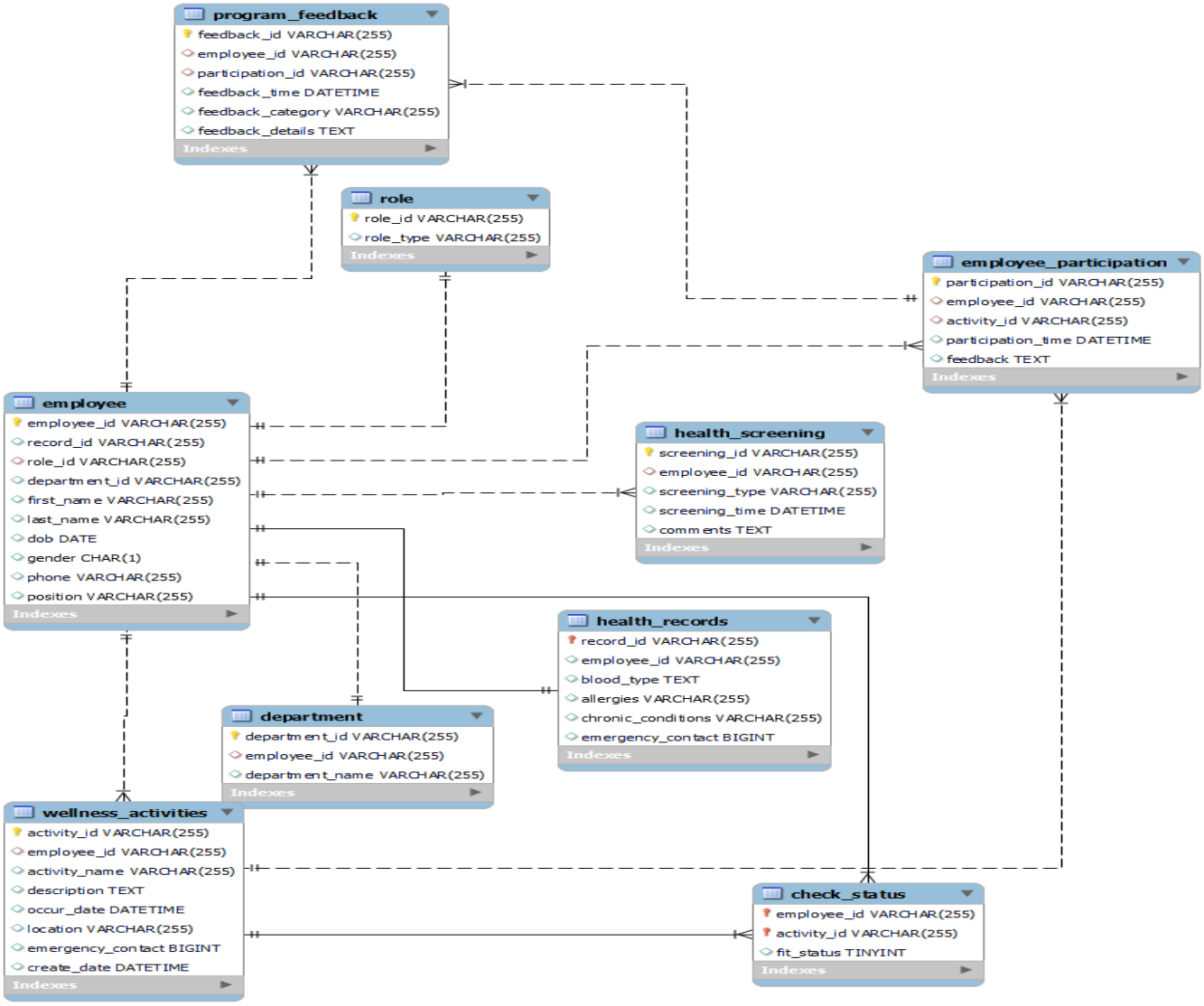
Enhanced Employee Engagement

Offering health and wellness programs demonstrates an organization's commitment to employee welfare. Employees who feel supported and valued by their employer are more engaged, motivated, and loyal to the company.

Improved Employee Morale

Health and wellness programs can boost employee morale by providing opportunities for personal development, social interaction, and stress relief. When employees feel physically and mentally well, they are happier and more satisfied with their jobs.

ENTITY-RELATIONSHIP DIAGRAM



TABLES USED AND THEIR ATTRIBUTES

- **Role Table**: defining different roles within the organization ,i.e. , admin or employee
    - **role_id** (varchar (255)): Primary key representing the role ID.
    - **role_type** (varchar (255)): Type of role within the organization.
- **Employee Table**: storing employee information, including their roles and department.
    - **employee_id** (varchar(255)): Primary key representing the employee ID.

    - **record_id** (varchar (255)): Identifier for the employee's records.
    - **role_id** (varchar (255)): Foreign key referencing the role ID from the Role table.
    - **department_id** (varchar(255)): Identifier for the employee's department.
    - **first_name** (varchar(255)): Employee's first name.
    - **last_name** (varchar(255)): Employee's last name.
    - **dob** (date): Date of birth of the employee.
    - **gender** (char): Gender of the employee.
    - **phone** (varchar(255)): Contact number of the employee.
    - **position** (varchar(255)): Position or job title of the employee.
    - Foreign key constraints:
        - **role_id** references **role(role_id)**.

- **Health Records Table**: storing health-related information of employees.
    - **record_id** (varchar(255)): Primary key representing the record ID.
    - **employee_id** (varchar(255)): Identifier for the employee associated with the health record.
    - **blood_type** (text): Blood type of the employee.
    - **allergies** (varchar(255)): Any allergies the employee may have.
    - **chronic_conditions** (varchar (255)): Chronic health conditions of the employee.
    - **emergency_contact** (varchar(255)): Emergency contact number for the employee.

- **Wellness Activities Table**: storing details of wellness activities offered to employees.
    - **activity_id** (varchar(255)): Primary key representing the activity ID.
    - **employee_id** (varchar(255)): Identifier for the employee associated with the activity.
    - **activity_name** (varchar(255)): Name or title of the wellness activity.
    - **description** (text): Description of the wellness activity.
    - **occur_date** (datetime): Date and time when the activity occurs.
    - **location** (varchar (255)): Location where the activity takes place.
    - **emergency_contact** (bigInt): Emergency contact number for the activity.

    - **create_date** (datetime): Date and time when the activity record was created.

- **Health Screening Table**: recording health screenings conducted for employees.
    - **screening_id** (varchar(255)): Primary key representing the screening ID.
    - **employee_id** (varchar(255)): Identifier for the employee associated with the screening.
    - **screening_type** (varchar(255)): Type or category of health screening.
    - **screening_time** (datetime): Date and time when the screening took place.
    - **comments** (text): Additional comments or notes related to the screening.

- **Employee Participation Table**: tracking employee participation in wellness activities and gathering feedback.
    - **participation_id** (varchar(255)): Primary key representing the participation ID.
    - **employee_id** (varchar(255)): Identifier for the employee participating in the activity.
    - **activity_id** (varchar(255)): Identifier for the activity in which the employee participates.
    - **participation_time** (datetime): Date and time of employee participation.
    - **feedback** (text): Feedback provided by the employee regarding the participation.

- **Program Feedback Table**: capturing feedback from employees regarding wellness program participation.
    - **feedback_id** (varchar(255)): Primary key representing the feedback ID.
    - **employee_id** (varchar(255)): Identifier for the employee providing feedback.
    - **participation_id** (varchar(255)): Identifier for the participation associated with the feedback.

- **feedback_time** (datetime): Date and time when the feedback was provided.
- **feedback_category** (varchar(255)): Category or type of feedback.
- **feedback_details** (text): Detailed feedback provided by the employee.

- **Department Table**: for determing departments of different employees
  - **department_id** (varchar(255)): Primary key representing the department ID.
  - **employee_id** (varchar(255)): Identifier for the employee associated with the department.
  - **department_name** (varchar(255)): Name of the department.

- **Check Status Table**: determining the fitness status of employees for specific wellness activities.
  - **employee_id** (varchar(255)): Identifier for the employee.
  - **activity_id** (varchar(255)): Identifier for the wellness activity.
  - **fit_status** (boolean): Indicates whether the employee is fit for the activity.
  - Primary key constraint: Combination of **employee_id** and **activity_id**.
  - Foreign key constraints:
    - **employee_id** references **employee(employee_id)**.
    - **activity_id** references **wellness_activities(activity_id)**.

NORMALIZATION PROCESS

1NF: The above-mentioned tables adhere to 1NF

- **Role Table**:
  - Each column contains atomic values, fulfilling the requirement of 1NF.
  - The **role_id** column serves as the primary key, ensuring unique identification for each role.
- **Employee Table**:
  - Each column contains atomic values, meeting the 1NF requirement.
  - The **employee_id** column serves as the primary key, ensuring unique identification for each employee.
  - All attributes in the table are single-valued attributes, and there are no repeating groups.
- **Health Records Table**:

    - Each column contains atomic values.
    - The **record_id** column serves as the primary key, ensuring unique identification for each health record.
    - There are no repeating groups within the table.
- **Wellness Activities Table**:
    - Each column contains atomic values.
    - The **activity_id** column serves as the primary key, ensuring unique identification for each wellness activity.
    - There are no repeating groups within the table.
- **Health Screening Table**:
    - Each column contains atomic values.
    - The **screening_id** column serves as the primary key, ensuring unique identification for each health screening record.
    - There are no repeating groups within the table.
- **Employee Participation Table**:
    - Each column contains atomic values.
    - The **participation_id** column serves as the primary key, ensuring unique identification for each participation record.
    - There are no repeating groups within the table.
- **Program Feedback Table**:
    - Each column contains atomic values.
    - The **feedback_id** column serves as the primary key, ensuring unique identification for each feedback record.
    - There are no repeating groups within the table.
- **Department Table**:
    - Each column contains atomic values.
    - The **department_id** column serves as the primary key, ensuring unique identification for each department.
    - There are no repeating groups within the table.
- **Check Status Table**:
    - Each column contains atomic values.
    - The combination of **employee_id** and **activity_id** serves as the composite primary key, ensuring unique identification for each record.
    - There are no repeating groups within the table.

All tables meet the requirements of 1NF by having atomic values in each column and ensuring unique identification for each record through primary keys. There are

no repeating groups present in any of the tables, further confirming adherence to 1NF.

2NF: The above-mentioned tables adhere to 2NF

- **Role Table**:
  - Since the Role table has a single composite primary key (**role_id**), and each non-key attribute (**role_type**) is fully functionally dependent on the entire composite key, it satisfies 2NF.
- **Employee Table**:
  - The Employee table has a single primary key (**employee_id**), and all non-key attributes are functionally dependent on the entire primary key.
  - The **record_id** attribute seems to be functionally dependent on **employee_id**, assuming it's a unique identifier for each employee's records. This dependence ensures that there are no partial dependencies, thus satisfying 2NF.
- **Health Records Table**:
  - The Health Records table has a single primary key (**record_id**), and all other attributes (**blood_type**, **allergies**, **chronic_conditions**, **emergency_contact**) are functionally dependent on the entire primary key.
  - Each record in this table corresponds to a unique health record identified by **record_id**, and all attributes describe properties of that health record, ensuring there are no partial dependencies.
- **Wellness Activities Table**:
  - The Wellness Activities table has a single primary key (**activity_id**), and all non-key attributes are functionally dependent on the entire primary key.
  - Each activity record is uniquely identified by **activity_id**, and attributes such as **activity_name**, **description**, **occur_date**, **location**, **emergency_contact**, and **create_date** are fully dependent on this key.
- **Health Screening Table**:
  - The Health Screening table has a single primary key (**screening_id**), and all non-key attributes are functionally dependent on the entire primary key.

    - Each health screening record is uniquely identified by **screening_id**, and attributes such as **employee_id**, **screening_type**, **screening_time**, and **comments** are fully dependent on this key.
- **Employee Participation Table**:
    - The Employee Participation table has a single primary key (**participation_id**), and all non-key attributes are functionally dependent on the entire primary key.
    - Each participation record is uniquely identified by **participation_id**, and attributes such as **employee_id**, **activity_id**, **participation_time**, and **feedback** are fully dependent on this key.
- **Program Feedback Table**:
    - The Program Feedback table has a single primary key (**feedback_id**), and all non-key attributes are functionally dependent on the entire primary key.
    - Each feedback record is uniquely identified by **feedback_id**, and attributes such as **employee_id**, **participation_id**, **feedback_time**, **feedback_category**, and **feedback_details** are fully dependent on this key.
- **Department Table**:
    - The Department table has a single primary key (**department_id**), and all non-key attributes are functionally dependent on the entire primary key.
    - Each department record is uniquely identified by **department_id**, and attributes such as **employee_id** and **department_name** are fully dependent on this key.
- **Check Status Table**:
    - The Check Status table has a composite primary key (**employee_id**, **activity_id**), and the **fit_status** attribute is fully functionally dependent on the entire composite key.
    - The combination of **employee_id** and **activity_id** uniquely identifies each check status record, and the **fit_status** attribute describes the status of the employee's participation in a particular activity.

All tables satisfy the requirements of 2NF by having all non-key attributes fully functionally dependent on the entire primary key, without any partial dependencies.

3NF: The above-mentioned tables also adhere to 3NF

- **Role Table**:
  - The Role table has a single primary key (**role_id**), and each non-key attribute (**role_type**) is fully functionally dependent on the entire primary key. It satisfies 3NF.
- **Employee Table**:
  - The Employee table has a single primary key (employee_id), and all other attributes are functionally dependent on the entire primary key. It satisfies 3NF.
- **Health Records Table**:
  - The Health Records table has a single primary key (**record_id**), and all other attributes (**blood_type**, **allergies**, **chronic_conditions**, **emergency_contact**) are functionally dependent on the entire primary key. It satisfies 3NF.
- **Wellness Activities Table**:
  - The Wellness Activities table has a single primary key (**activity_id**), and all non-key attributes are functionally dependent on the entire primary key. It satisfies 3NF.
- **Health Screening Table**:
  - The Health Screening table has a single primary key (**screening_id**), and all non-key attributes are functionally dependent on the entire primary key. It satisfies 3NF.
- **Employee Participation Table**:
  - The Employee Participation table has a single primary key (**participation_id**), and all non-key attributes are functionally dependent on the entire primary key. It satisfies 3NF.
- **Program Feedback Table**:
  - The Program Feedback table has a single primary key (**feedback_id**), and all non-key attributes are functionally dependent on the entire primary key. It satisfies 3NF.
- **Department Table**:
  - The Department table has a single primary key (**department_id**), and all non-key attributes are functionally dependent on the entire primary key. It satisfies 3NF.
- **Check Status Table**:

- The Check Status table has a composite primary key (**employee_id**, **activity_id**), and the **fit_status** attribute is fully functionally dependent on the entire composite key. It satisfies 3NF.