Project 2: Healthcare Center Database

In this project, you will design, implement, and test a database for a healthcare center.

In your **design**, you will need to determine

   a)   what information to store (please see the second page for some suggestions)
   b)   how to design a descriptive E/R diagram (please use MS Visio or any similar tool)
   c)   what kind of business reports would be needed (please create 4 views for a valid reason)
   d)   what are the possible business logics, and how to incorporate them into the design (triggers, constraints)
   e)   what kind of stored procedures and functions would be needed (please create at least 1 of each, with a total of 4 objects with valid reasons)
   f)   scripts to create users with various security levels, password assignments, roles, encryptions

In your **implementation**, you will need to

   a)   determine the tables, columns, primary keys, datatypes, nullabilities, and relationships.
   b)   normalize your design into its 3rd Normal Form.
   c)   address potential integrity and security issues.

In your **testing**, you will need to

   a)   populate your database with test data (about 5 rows in each table)
   b)   produce about 5 reports (please use also your views)
   c)   demonstrate its reliability through several scenarios

Please your typed report as a single file (.doc or .pdf) on Blackboard.

Your report should include following sections:

1.   [5] Cover page: a descriptive title, a short abstract, and your information
2.   [50] Design: your introduction, design considerations and choices, and E/R diagrams
3.   [10] Implementation: source codes with your comments, and screenshots of your design
4.   [10] Testing: testcases and screenshots with your comments
5.   [5] Conclusions: your project analysis, and your remarks on this project

All reports that satisfy all the following basic requirements will have a base score of 20 points. The maximum points deducted for noncompliance is indicated in parentheses.

1.   General report guidelines followed, i.e. sections labeled, pages numbered [10]
2.   Report adheres to basic standards of grammar and spelling [10]

Employees
- name, SSN, address, phone, email
- past and current job title, salary, benefits, contract type, contract term, reviews
- department, office, office phone
- work schedule

Patient Rooms
- location
- capacity (number and types of beds)
- medical devices and equipment
- status (occupied, …)
- schedule history

Patients
- name, SSN, address, phone, email, spouse info
- health insurance info
- primary care doctor

Patient Health History
- weight, height, vitals (heart rate, blood pressure, …)
- check in/out times
- symptoms
- diagnostics
- procedures
- physicians
- referral doctor
- medication info
- hospitalization info
- discharge info

Costs
- medications
- procedures

Billing
- visits
- items
- payor (self, insurance company, …)
- payment method

Insurance Coverages
- health insurance company name, phone, contact info
- insurance coverages

Visitors
- name, ID number, date of birth, picture (file, or cloud?)
- patient being visited
- entry/exit times