1. To keep track of patients' appointments with different doctors, Fairfax hospitals use the table structure shown below. Assuming that the sample data are representative, draw a dependency diagram in Visio that shows all functional dependencies including both partial and transitive dependencies. (Hint: Look at the sample values to determine the nature of the relationships.)

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | **Sample Value** | **Sample Value** | **Sample Value** |
| **HOSPITAL\_CODE** | RHS | FHS | RHS |
| **HOSPITAL\_NAME** | Reston Hospital Center | Fair Oaks Hospital | Reston Hospital Center |
| **DOCTOR\_ID** | 123 | 473 | 123 |
| **DOCTOR\_NAME** | John Smith | Kim Young | John Smith |
| **PATIENT\_CODE** | P1322 | P1322 | P9375 |
| **PATIENT\_NAME** | Bob King | Bob King | Don Priest |
| **APPOINTMENT\_DATE** | 01/01/2009 | 05/03/2009 | 01/01/2009 |



1. Using the initial dependency diagram drawn in question 1, remove all partial dependencies, draw the new dependency diagrams in Visio, and identify the normal forms for each table structure you created.



1. Using the table structures you created in question 2, remove all transitive dependencies, and draw the new dependency diagrams in Visio. Also identify the normal forms for each table structure you created. If necessary, add or modify attributes to create appropriate determinants or to adhere to the naming conventions



1. Using the results of question 3, draw the fully labeled Crow's Foot ERD in Visio. The diagram must include all entities, attributes, and relationships. Primary keys and foreign keys must be clearly identified on the diagram.

