**BLOOD BANK MANAGEMENT SYSTEM**

A Blood Bank stores blood of various blood groups . Many donors donate blood ,each of different blood group/type. A donor may donate blood more than once and he is identified by a donor id(DID),name, sex, age , address and phone number. The blood donated by the donor is characterized by blood type , code and cost. Before each donor donates his blood , he is required to register himself as a donor with the receptionist who works at the Blood Bank. The receptionist is identified by employee id, name , address and phone number. The Blood Banks receives orders for blood from many hospitals for emergency purposes and other surgical requirements and each blood bank issues the same of required blood type. Each blood bank has it’s own blood bank number(BNO) , issues, orders and blood types stored. The Blood Bank is managed by the blood bank manager who is identified by employee id , name , email\_id and phone number .He is responsible for the proper management of the blood bank . The hospitals are identified by name, address and phone number.

STEP 1 : Identifying the entities

1. Donor  
2. Blood  
3. Receptionist  
4. Blood Bank  
5. Blood Bank Manager  
6. Hospital

STEP 2 : Identify the relationships.

1.A donor may donate blood any number of times. So cardinality is 1:N.  
2.Many donors may register blood donation with a single receptionist. So cardinality is N:1.  
3.Blood of different type in large numbers is stored in a single Blood Bank . So cardinality is N:1.  
4.Blood Bank is managed by an blood bank -manager. So cardinality is 1:1.  
5. A receptionist works in a Blood Bank . So cardinality is 1:1.  
6. Hospitals may order blood from different Blood Banks . So cardinality is N:M.

STEP 3 : Identify the key attributes.

1. Donor – donor id(DID)  
2.Blood – code(code)  
3.Receptionist – employee id(empid)  
4.Blood Bank–Blood Bank number(BNO)  
5.Blood Bank Manager – employee id(empid)  
6.Hospital – name, phone number(phno)

STEP 4 : Identify other relevant attributes

1. Donor – name, age, sex, address, phone number(phno)  
2. Blood – blood type,cost  
3. Receptionist – name, address, phone number(phno)  
4. Blood Bank– issues, orders , blood type  
5. Blood Bank Manager – name ,email \_id , phone number(phno)  
6. Hospital-address

STEP 5 : Complete the ER Diagram.