2NF (Second Normal Form)

- **Eliminate Partial Dependencies** (Each non-key attribute must be fully functionally dependent on the whole primary key).
- **Separate location information into its own table**.

Location Table (2NF)

Location_ID	Street_Address	City	State	ZIP
1	House 15, Road 5	dhanmondi	Dhaka	1209
1	House 8, Road 12	Panchlaish	Chattogram	4000

Updated BloodBank Table (2NF)

BloodBank_ID	Name	Contact	Email	Location Id (FK)
1	Dhaka Blood Bank	01811123456	dhaka.bloodbank@gmail.com	1
2	Chittagong Blood Bank	01822223456	chattogram.bloodbank@gmail.com	2

Updated Donor Table (2NF)

Donor_ID	Name	Blood_Type	Contact	Email	Nid	Location_Id
1	Rashedul Islam	O+	01768234567	rashed101@gmail.com	111223344	1
2	Jannatul Ferdous	A+	01778234567	jannat202@gmail.com	112233445	2

🔴 Remaining Issues:

- Some transitive dependencies still exist (e.g., Blood Type is functionally dependent on Donor ID).

3NF (Third Normal Form)

- **Remove Transitive Dependencies** (Non-key attributes should only depend on the primary key).
- **Separate blood type into its own table**

Blood Table (3NF)

Blood_Type	Blood_ID
O+	1
A+	2

Final Donor Table (3NF)

Donar_ID	Name	Blood_id	Contact	Email	Nid	Location(FK)
1	Rashedul Islam	1	01888811111	rashed101@gmail.com	111223344	1
2	Jannatul Ferdous	2	0176267564	jannat202@gmail.com	143341411	2

🔵 Final Improvements:

Blood Type is now independent and reusable across different entities (Donors, Patients, Inventory).

- **Location information is normalized** and can be used for hospitals, blood banks, and donors.
- **Every non-key attribute is fully dependent on the primary key**, ensuring **3NF compliance**.