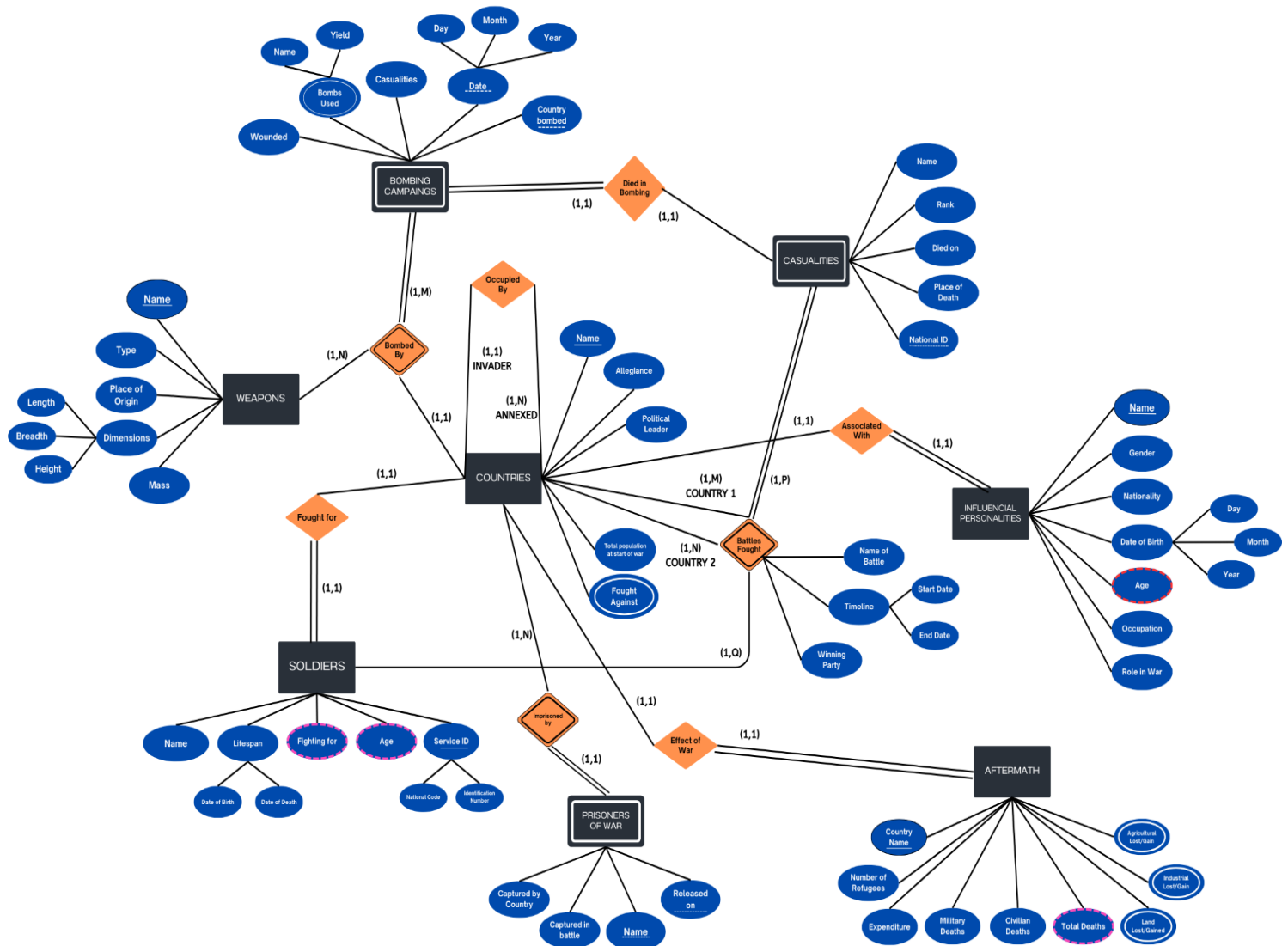# DnA
Project Phase - 3
Team 3 - **DNAgiri**

Objective - Convert the ER model of your project mini-world to a relational model and iteratively normalize the database to reduce redundancy
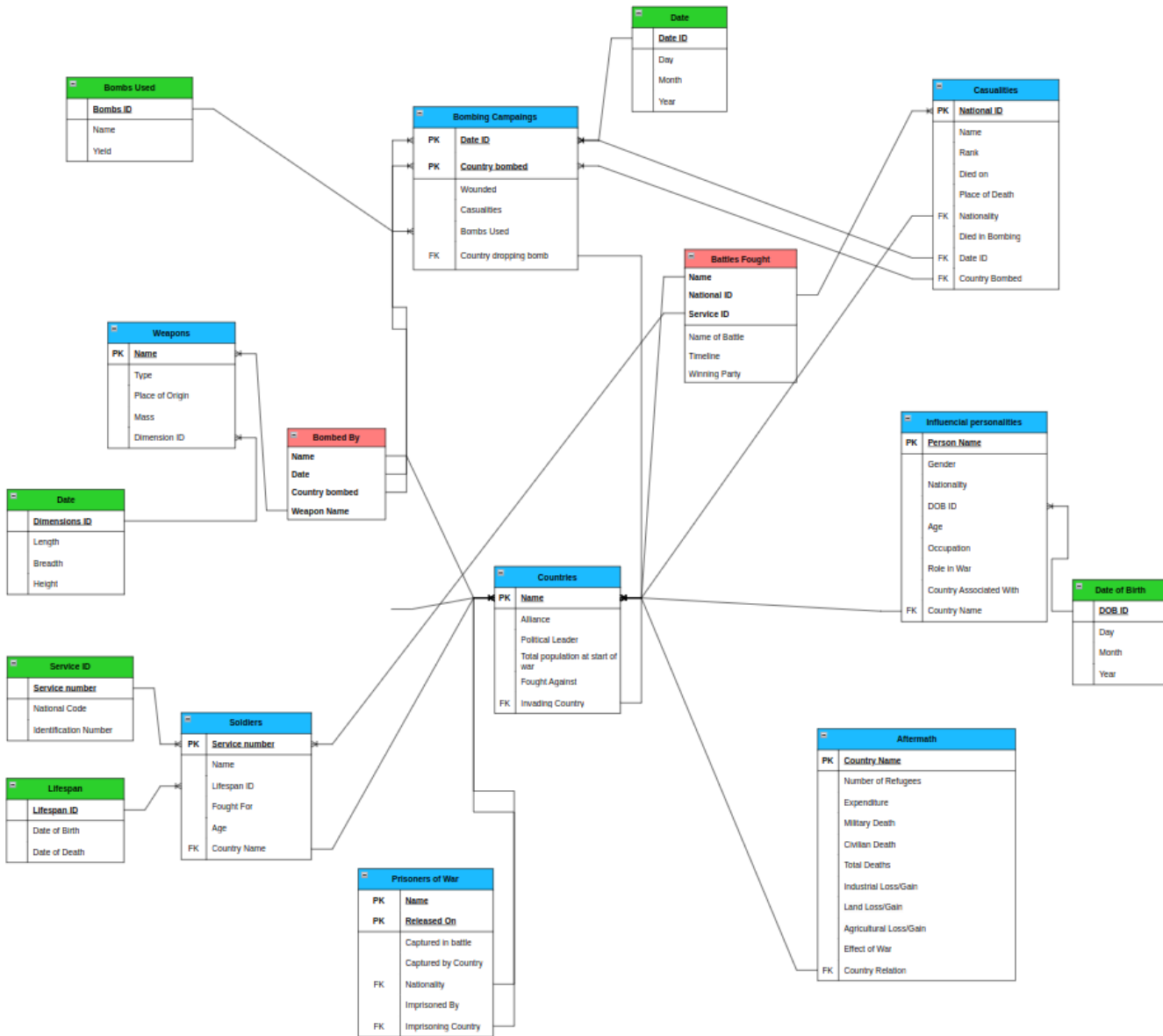
ER Model Diagram

Relational Model

The above ER Diagram has been converted into the following Relational Model.
Blue - Entity Types
Red - Relationship Types
Green - Composite attributes

Date
Date ID	
Day	
Month	
Year	

Bombs Used
Bombs ID	
Name	
Yield	

Bombing Campaings
PK	Date ID
PK	Country bombed
	Wounded
	Casualities
	Bombs Used
FK	Country dropping bomb

Casualities
PK	National ID
	Name
	Rank
	Died on
	Place of Death
FK	Nationality
	Died in Bombing
FK	Date ID
FK	Country Bombed

Battles Fought
	Name
	National ID
	Service ID
	Name of Battle
	Timeline
	Winning Party

Weapons
PK	Name
	Type
	Place of Origin
	Mass
	Dimension ID

Bombed By
	Name
	Date
	Country bombed
	Weapon Name

Influencial personalities
PK	Person Name
	Gender
	Nationality
	DOB ID
	Age
	Occupation
	Role in War
	Country Associated With
FK	Country Name

Date
Dimensions ID	
Length	
Breadth	
Height	

Date of Birth
DOB ID	
Day	
Month	
Year	

Countries
PK	Name
	Alliance
	Political Leader
	Total population at start of war
	Fought Against
FK	Invading Country

Service ID
Service number	
National Code	
Identification Number	

Lifespan
Lifespan ID	
Date of Birth	
Date of Death	

Soldiers
PK	Service number
	Name
	Lifespan ID
	Fought For
	Age
FK	Country Name

Aftermath
PK	Country Name
	Number of Refugees
	Expenditure
	Military Death
	Civilian Death
	Total Deaths
	Industrial Loss/Gain
	Land Loss/Gain
	Agricultural Loss/Gain
	Effect of War
FK	Country Relation

Prisoners of War
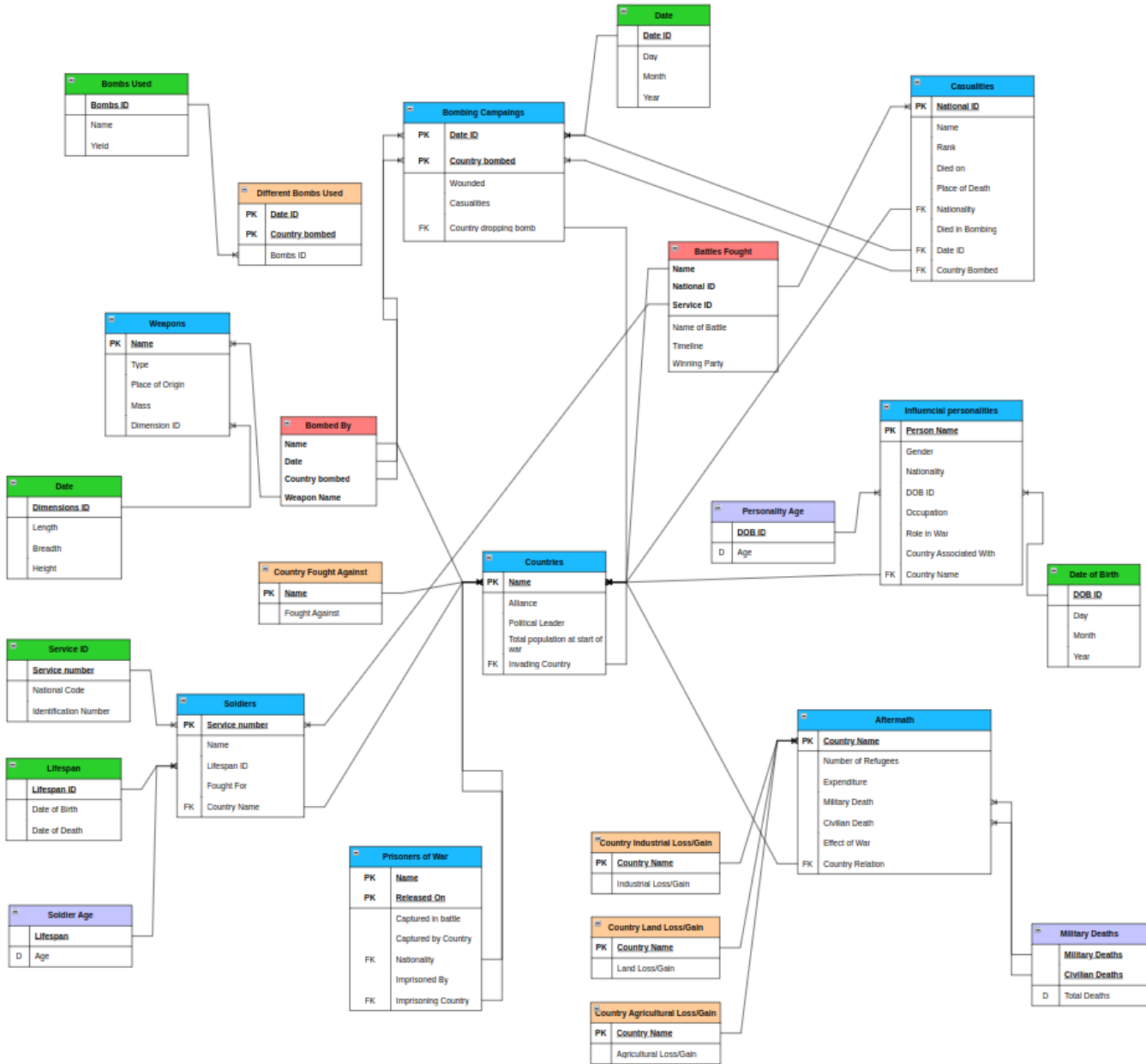| PK	Name
PK	Released On
	Captured in battle
	Captured by Country
FK	Nationality
	Imprisoned By
FK	Imprisoning Country

1NF

The above Relational Diagram has been converted into the following 1NF Form by decomposing the Multivalued attributes into Multiple Atomic values.(**Orange** tables have been added)
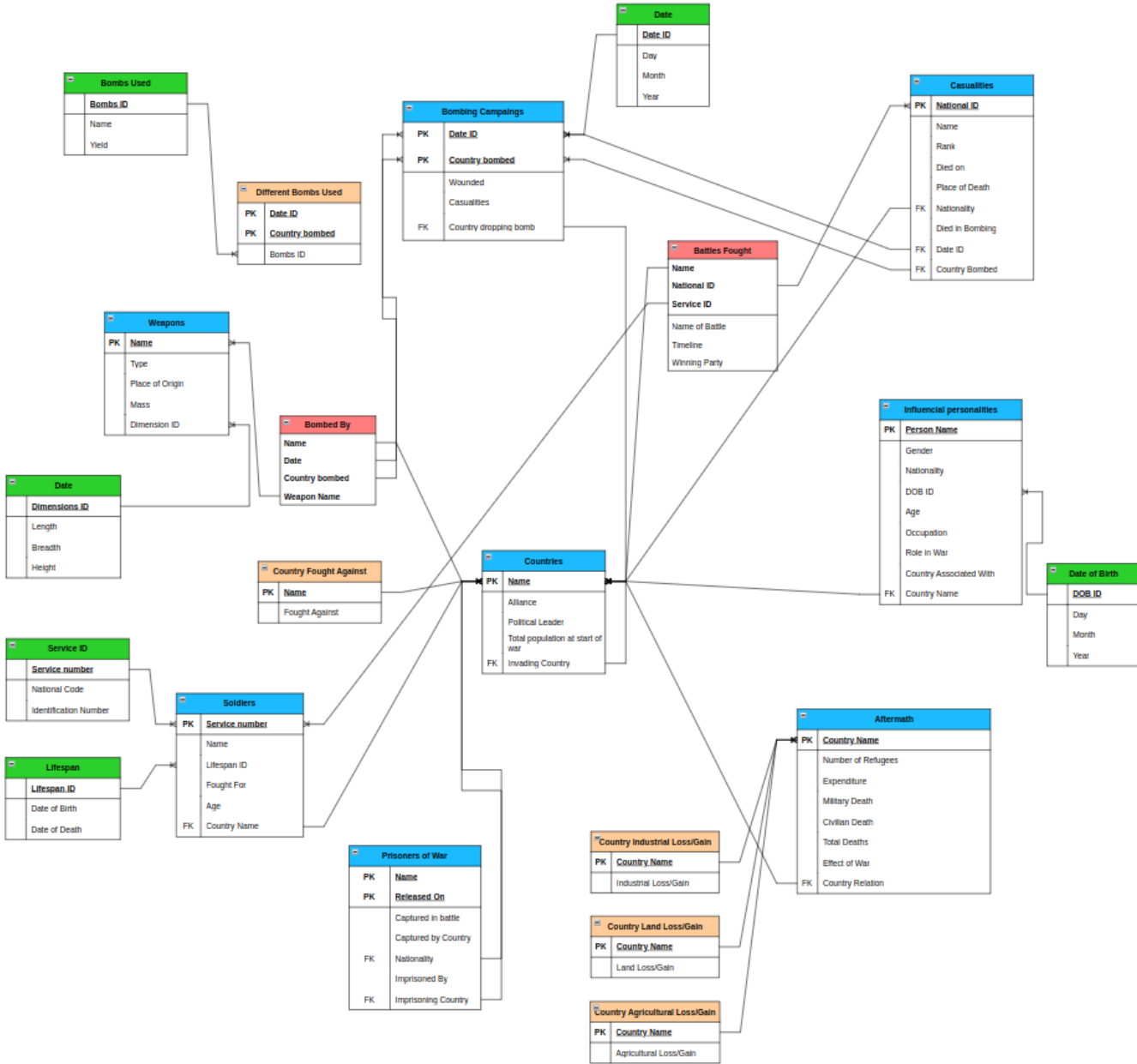
2 NF

The above 1NF has been converted into the following 2NF by decomposing the Derived attributes and other partial dependencies. (**Purple** tables have been added)

Date
	Date ID
	Day
	Month
	Year

Bombs Used
	Bombs ID
	Name
	Yield

Bombing Campaigns
PK	Date ID
PK	Country bombed
	Wounded
	Casualities
FK	Country dropping bomb

Casualities
PK	National ID
	Name
	Rank
	Died on
	Place of Death
FK	Nationality
	Died in Bombing
FK	Date ID
FK	Country Bombed

Different Bombs Used
PK	Date ID
PK	Country bombed
	Bombs ID

Battles Fought
	Name
	National ID
	Service ID
	Name of Battle
	Timeline
	Winning Party

Weapons
PK	Name
	Type
	Place of Origin
	Mass
	Dimension ID

Influencial personalities
PK	Person Name
	Gender
	Nationality
	DOB ID
	Occupation
	Role in War
	Country Associated With
FK	Country Name

Bombed By
	Name
	Date
	Country bombed
	Weapon Name

Date
	Dimensions ID
	Length
	Breadth
	Height

Personality Age
	DOB ID
D	Age

Date of Birth
	DOB ID
	Day
	Month
	Year

Country Fought Against
PK	Name
	Fought Against

Countries
PK	Name
	Alliance
	Political Leader
	Total population at start of war
FK	Invading Country

Service ID
	Service number
	National Code
	Identification Number

Soldiers
PK	Service number
	Name
	Lifespan ID
	Fought For
FK	Country Name

Aftermath
PK	Country Name
	Number of Refugees
	Expenditure
	Military Death
	Civilian Death
	Effect of War
FK	Country Relation

Lifespan
	Lifespan ID
	Date of Birth
	Date of Death

Prisoners of War
PK	Name
PK	Released On
	Captured in battle
	Captured by Country
FK	Nationality
	Imprisoned By
FK	Imprisoning Country

Country Industrial Loss/Gain
PK	Country Name
	Industrial Loss/Gain

Soldier Age
	Lifespan
D	Age

Country Land Loss/Gain
PK	Country Name
	Land Loss/Gain

Military Deaths
	Military Deaths
	Civilian Deaths
D	Total Deaths

Country Agricultural Loss/Gain
PK	Country Name
	Agricultural Loss/Gain

3NF

Since we had no transitive dependencies in our 2NF. So our 3NF is same as 2NF.

Date
	Date ID
	Day
	Month
	Year

Bombs Used
	Bombs ID
	Name
	Yield

Different Bombs Used
PK	**Date ID**
PK	**Country bombed**
	Bombs ID

Bombing Campaings
PK	**Date ID**
PK	**Country bombed**
	Wounded
	Casualties
FK	Country dropping bomb

Casualities
PK	**National ID**
	Name
	Rank
	Died on
	Place of Death
FK	Nationality
	Died in Bombing
FK	Date ID
FK	Country Bombed

Weapons
PK	**Name**
	Type
	Place of Origin
	Mass
	Dimension ID

Battles Fought
	Name
	National ID
	Service ID
	Name of Battle
	Timeline
	Winning Party

Bombed By
	Name
	Date
	Country bombed
	Weapon Name

Date
	Dimensions ID
	Length
	Breadth
	Height

Influencial personalities
PK	**Person Name**
	Gender
	Nationality
	DOB ID
	Occupation
	Role in War
	Country Associated With
FK	Country Name

Personality Age
	DOB ID
D	Age

Date of Birth
	DOB ID
	Day
	Month
	Year

Country Fought Against
PK	**Name**
	Fought Against

Countries
PK	**Name**
	Alliance
	Political Leader
	Total population at start of war
FK	Invading Country

Service ID
	Service number
	National Code
	Identification Number

Soldiers
PK	**Service number**
	Name
	Lifespan ID
	Fought For
FK	Country Name

Lifespan
	Lifespan ID
	Date of Birth
	Date of Death

Soldier Age
	Lifespan
D	Age

Prisoners of War
PK	**Name**
PK	**Released On**
	Captured in battle
	Captured by Country
FK	Nationality
	Imprisoned By
FK	Imprisoning Country

Aftermath
PK	**Country Name**
	Number of Refugees
	Expenditure
	Military Death
	Civilian Death
	Effect of War
FK	Country Relation

Country Industrial Loss/Gain
PK	**Country Name**
	Industrial Loss/Gain

Country Land Loss/Gain
PK	**Country Name**
	Land Loss/Gain

Country Agricultural Loss/Gain
PK	**Country Name**
	Agricultural Loss/Gain

Military Deaths
	Military Deaths
	Civilian Deaths
D	Total Deaths