

## BANCO DE DADOS – Batalhas em Game of Thrones

### NORMALIZAÇÃO – PASSO A PASSO

#### ESQUEMA ÑN – NÃO NORMALIZADA

battles(name, year, battle\_number, attacker\_king, defender\_king, attacker\_1, attacker\_2, attacker\_3, attacker\_4, defender\_1, defender\_2, defender\_3, defender\_4, attacker\_outcome, battle\_type, major\_death, major\_capture, attacker\_size, defender\_size, attacker\_commander, defender\_commander, summer, location, region, note )

#### Esquema 1FN – 1 FORMA NORMAL

->**attacker\_king** – atributo multivalorado

->**defender\_king** – atributo multivalorado

->**attacker\_commander** – atributo multivalorado

->**defender\_commander** – atributo multivalorado

-> **location** – atributo multivalorado

#### TRANSFORMAÇÃO

attacker\_king(battle\_number, id\_king, attacker\_king)

defender\_king(battle\_number, id\_king, defender\_king)

attacker\_commander(battle\_number, id\_commander, attacker\_commander)

defender\_commander(battle\_number, id\_commander, defender\_commander)

location(battle\_number, id\_location, location)

## AO FINAL DA TRANSFORMAÇÃO

battles(name, year, battle\_number, , attacker\_1, attacker\_2, attacker\_3, attacker\_4, defender\_1, defender\_2, defender\_3, defender\_4. attacker\_outcome, battle\_type, major\_death, major\_capture, attacker\_size, defender\_size, summer, region, note )

attacker\_king(battle\_number, id\_king, attacker\_king)

defender\_king(battle\_number, id\_king, defender\_king)

attacker\_commander(battle\_number, id\_commander, attacker\_commander)

defender\_commander(battle\_number, id\_commander, defender\_commander)

location(battle\_number, id\_location, location)

## ESQUEMA 2FN – 2 FORMA NORMAL

Já está na 2FN!

1 Coluna na chave primária

battles(name, year, battle\_number, , attacker\_1, attacker\_2, attacker\_3, attacker\_4, defender\_1, defender\_2, defender\_3, defender\_4. attacker\_outcome, battle\_type, major\_death, major\_capture, attacker\_size, defender\_size, summer, region, note )

## Ajustes

1FN

attacker\_king(battle\_number, id\_king, attacker\_king)

id\_king -> attacker\_king

1FN

defender\_king(battle\_number, id\_king, defender\_king)

id\_king -> defender\_king

1FN

attacker\_commander(battle\_number, id\_commander,  
attacker\_commander)

id\_commander -> attacker\_commander

1FN

defender\_commander(battle\_number, id\_commander,  
defender\_commander)

id\_commander -> defender\_commander

1FN

location(battle\_number, id\_location, location)

id\_location -> location

## Transformações

attacker\_king(battle\_number, id\_king, attacker\_king)



king(id\_king, king\_name)



defender\_king(battle\_number, id\_king, defender\_king)

attacker\_commander(battle\_number, id\_commander,  
attacker\_commander)



commander(id\_commander, commander\_name)



defender\_commander(battle\_number, id\_commander,  
defender\_commander)

location(battle\_number, id\_location, location)

id\_location -> location



location(id\_location, location)

### ESQUEMA 3FN – 3 FORMA NORMAL

Não há dependências transitivas, portanto já está na 3FN!

battles(name, year, battle\_number, , attacker\_1, attacker\_2,  
attacker\_3, attacker\_4, defender\_1, defender\_2, defender\_3,  
defender\_4, attacker\_outcome, battle\_type, major\_death,  
major\_capture, attacker\_size, defender\_size, summer, region, note )

## AJUSTES

battles(name, year, **battle\_number**, , attacker\_1, attacker\_2,  
attacker\_3, attacker\_4, defender\_1, defender\_2, defender\_3,  
defender\_4, attacker\_outcome, battle\_type, major\_death,  
major\_capture, attacker\_size, defender\_size, summer, **region**, note )



region(**id\_region**, region)

king(**id\_king**, king\_name)

attacker\_king(**battle\_number**, **id\_king**)

defender\_king(**battle\_number**, **id\_king**)

commander(**id\_comander**, commander)

attacker\_commander(**battle\_number**, **id\_commander**)

defender\_commander(**battle\_number**, **id\_commander**,)

location(**id\_location**, location)

## MAIS AJUSTES

region(id\_region, region)

location(id\_location, location)

location\_battle(battle\_number, id\_location)

Precisamos saber regiões e  
loais onde ocorreram  
batalhas



location\_battle(battle\_number, id\_location)

region\_battle(battle\_number, id\_region)

battles(name, year, battle\_number, attacker\_1, attacker\_2,  
attacker\_3, attacker\_4, defender\_1, defender\_2, defender\_3,  
defender\_4, attacker\_outcome, battle\_type, major\_death,  
major\_capture, attacker\_size, defender\_size, summer, region, note )

Verificamos que as colunas attacker\_1, attacker\_2, attacker\_3,  
attacker\_4, defender\_1, defender\_2, defender\_3, defender\_4, se  
referem as casas de game of thrones. portanto é o mesmo tipo de  
dado. Optamos por transformar essas colunas em 3 tabelas.

Eliminamos os atributos opcionais!

house(id\_house, house\_name)

attacker(battle\_number, id\_house)

defender(battle\_number, id\_house)

## VERSÃO FINAL

battles(name, year, **battle\_number**, attacker\_outcome, battle\_type, major\_death, major\_capture, attacker\_size, defender\_size, summer, note )

king(**id\_king**, king\_name)

house(**id\_house**, house\_name)

region(**id\_region**, region)

location(**id\_location**, location)

commander(**id\_comander**, commander)

attacker\_king(**battle\_number**, **id\_king**)

    battle\_number referencia battles

    id\_king referencia king

defender\_king(**battle\_number**, **id\_king**)

    battle\_number referencia battles

    id\_king referencia king

attacker\_commander(**battle\_number**, **id\_commander**)

    battle\_number referencia battles

    id\_commander referencia commander

defender\_commander(**battle\_number**, **id\_commander**,)

    battle\_number referencia battles

    id\_commander referencia commander

location\_battle(**battle\_number**, **id\_location**)

    battle\_number referencia battles

    id\_location referencia location

region\_battle(**battle\_number**, **id\_region**)

    battle\_number referencia battles

    id\_region referencia region

attacker(**battle\_number, id\_house**)

battle\_number referencia battles

id\_house referencia house

defender(**battle\_number, id\_house**)

battle\_number referencia battles

id\_house referencia house