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## UNF

CRUISE (cruise\_id, cruise\_name, cost\_per\_person, (port\_code, port\_name, port\_latitude, port\_longitude, country\_code, country\_name, departure\_date\_time, arrival, date\_time) )

## 1NF

CRUISE (cruise\_id, cruise\_name, cost\_per\_person)

CK:  
cruise\_id

ITINERARY (port\_code, departure arrival, date time, port\_name, port\_latitude, port\_longitude, country\_code, country\_name)

CK:  
port\_code, departure\_arrival, date\_time

Partial Dependencies:  
port\_code -> port\_name, port\_latitude, port\_longitude, country\_code, country\_name

## 2NF

CRUISE (cruise\_id, cruise\_name, cost\_per\_person)

ITINERARY (port\_code, departure arrival, date time)

PORT (port\_code, port\_name, port\_latitude, port\_longitude, country\_code, country\_name)

Transitive Dependencies:  
port\_latitude, port\_longitude -> port\_name, country\_code, country\_name  
country\_code -> country\_name

## 3NF

CRUISE (cruise\_id, cruise\_name, cost\_per\_person)

ITINERARY (port\_code, departure arrival, date time)

PORT (port\_code, port\_latitude, port\_longitude)

PORT\_LOCATION (port\_latitude, port\_longitude, port\_name)

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COUNTRY (country\_code, country\_name)

Full dependencies:

cruise\_id -> cruise\_name, cost\_per\_person

port\_code -> port\_latitude, port\_longitude

port\_latitude, port\_longitude -> port\_name

country\_code -> country\_name

### **FINAL 3NF**

CRUISE (cruise\_id, cruise\_name, cost\_per\_person)

ITINERARY (port\_code, departure\_arrival, date\_time)

PORT (port\_code, port\_latitude, port\_longitude)

PORT\_LOCATION (port\_latitude, port\_longitude, port\_name)

COUNTRY (country\_code, country\_name)