

Task 2 - Ocean Odyssey Normalisation

Step 1: Unnormalised Form (UNF)

CRUISE (cruise_id, cruise_name, cruise_cost, (port_code, port_name, port_latitude, port_longitude, country_code, country_name, itinerary_activity, itinerary_datetime))

Step 2: First Normal Form (1NF)

CRUISE (cruise_id, cruise_name, cruise_cost)

Candidate Keys: cruise_id

ITNERARY(itinerary_datetime, cruise_id, port_code, port_name, port_latitude, port_longitude, country_code, country_name, itinerary_activity)

Candidate Keys:

- itinerary_datetime, cruise_id

Partial Dependency: No partial dependency present.

Step 3: Second Normal Form (2NF)

CRUISE (cruise_id, cruise_name, cruise_cost)

Candidate Keys: cruise_id

ITNERARY(itinerary_datetime, cruise_id, port_code, port_name, port_latitude, port_longitude, country_code, country_name, itinerary_activity)

Candidate Keys:

- itinerary_datetime, cruise_id

Transitive Dependency:

- port_code -> port_name, port_latitude, port_longitude, country_code
- country_code -> country_name

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Step 4: Third Normal Form (3NF)

CRUISE (cruise_id, cruise_name, cruise_cost)

Candidate Keys: cruise_id

ITNERARY(itinerary_datetime, cruise_id, port_code, itinerary_activity)

Candidate Keys:

- itinerary_datetime, cruise_id

PORT(port_code, port_name, port_latitude, port_longitude, country_code)

Candidate Keys: port_code

COUNTRY(country_code, country_name)

Candidate Keys: country_code

Full Dependency:

- cruise_id -> cruise_name, cruise_cost
- itinerary_datetime, cruise_id -> port_code, itinerary_activity
- port_code -> port_name, port_latitude, port_longitude, country_code
- country_code -> country_name