**Script Documentation: Code Status Extraction**

* **Overview**: This SQL script extracts a patient's code status information from hospital chart events. It creates a new table named code\_status that contains the first and last code status of each patient, along with the time of their first entry for DNR (Do Not Resuscitate) or CMO (Comfort Measures Only).
* **Key References**:
  + None specified.
* **Logic Summary**:
  + The script uses Common Table Expressions (CTEs) to determine each patient's code status by evaluating their chart entries. It identifies the first and last recorded code statuses, flags for various code options, and timestamps for specific code status entries.
* **Process Steps**:
  + **CTE t1**:
    - Selects relevant columns from the chartevents table, particularly focusing on entries with specific item IDs related to code status. It applies row numbering to identify the first and last code status for each patient and flags the various code statuses (Full Code, Comfort Measures, DNR, DNI, and Do Not CPR).
  + **Final Selection**:
    - Joins the icustays table with the CTE t1 and aggregates the results. It uses conditional aggregation to determine the first and last code statuses and checks whether a patient has ever received a particular code status. Additionally, it captures the first occurrence of DNR, DNI, and Do Not CPR codes.
* **Output**:  
  The script generates a new table, code\_status, containing the following fields:
  + subject\_id: Unique identifier for the patient.
  + hadm\_id: Unique identifier for the hospital admission.
  + icustay\_id: Unique identifier for the ICU stay.
  + fullcode\_first: Indicates the first recorded Full Code status (1 for presence, 0 otherwise).
  + cmo\_first: Indicates the first recorded Comfort Measures status (1 for presence, 0 otherwise).
  + dnr\_first: Indicates the first recorded DNR status (1 for presence, 0 otherwise).
  + dni\_first: Indicates the first recorded DNI status (1 for presence, 0 otherwise).
  + dncpr\_first: Indicates the first recorded Do Not CPR status (1 for presence, 0 otherwise).
  + fullcode\_last: Indicates the last recorded Full Code status.
  + cmo\_last: Indicates the last recorded Comfort Measures status.
  + dnr\_last: Indicates the last recorded DNR status.
  + dni\_last: Indicates the last recorded DNI status.
  + DNCPR\_last: Indicates the last recorded Do Not CPR status.
  + Flags for whether the patient was ever given a certain code status (fullcode, cmo, dnr, dni, dncpr).
  + dnr\_first\_charttime: Timestamp of the first recorded DNR entry.
  + dni\_first\_charttime: Timestamp of the first recorded DNI entry.
  + dncpr\_first\_charttime: Timestamp of the first recorded Do Not CPR entry.
  + timecmo\_chart: Timestamp of the first recorded CMO entry.

**Example Query**:  
To retrieve all patients' first and last code statuses:  
sql  
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SELECT \* FROM code\_status;

* **Important Notes**:
  + The script is automatically generated; direct edits should be avoided to maintain integrity.
  + Ensure that item IDs used for filtering are current and relevant.
* **Conclusion**:  
  This script effectively compiles crucial information regarding patients' code statuses, which can aid in understanding their treatment preferences and decision-making in critical care settings.