**Script Documentation: KDIGO Urine Output Calculation**

* **Overview**: This SQL script calculates urine output (UO) over various time periods (6, 12, and 24 hours) for patients in the ICU. It creates a new table named kdigo\_uo to summarize urine output data alongside associated patient weights, allowing for the evaluation of urine output rates normalized to body weight.
* **Key References**: None specified.
* **Logic Summary**:
  + The script calculates the total urine output over the past 6, 12, and 24 hours by summing measurements from the urine\_output table, considering only those measurements taken within the specified timeframe.
  + The urine output rates are then computed by normalizing the total output by the patient's weight and the duration over which the output was calculated.
* **Process Steps**:
  + **CTE ur\_stg**:
    - This Common Table Expression (CTE) calculates total urine output for the previous 6, 12, and 24 hours by joining the urine\_output table with itself based on time.
    - It retains the earliest chart time for each summation, which is used to determine the rate of urine output.
  + **CTE ur\_stg2**:
    - This CTE computes the time duration used to sum urine output for each of the defined periods and adjusts for documentation frequency, assuming each entry corresponds to the prior hour.
  + **Final Selection**:
    - Combines the urine output data with patient weight data from the weight\_durations table, calculating urine output rates for each time period by dividing total urine output by weight and the number of hours calculated.
* **Output**:  
  The script generates a new table, kdigo\_uo, containing the following fields:
  + icustay\_id: Unique identifier for the ICU stay.
  + charttime: The time of the measurement.
  + weight: The patient's weight at the time of measurement.
  + urineoutput\_6hr, urineoutput\_12hr, urineoutput\_24hr: Total urine output over the respective time periods.
  + uo\_rt\_6hr, uo\_rt\_12hr, uo\_rt\_24hr: Urine output rates over the respective time periods, normalized to the patient's weight.
  + uo\_tm\_6hr, uo\_tm\_12hr, uo\_tm\_24hr: The duration (in hours) over which urine output was summed.

**Example Query**:  
To retrieve urine output rates for a specific ICU stay:  
sql  
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SELECT \* FROM kdigo\_uo WHERE icustay\_id = [specific\_icustay\_id];

* **Important Notes**:
  + The script is automatically generated; direct edits should be avoided to maintain integrity.
  + Assumptions regarding the timing of documentation may overestimate urine output rates if documentation is not performed hourly.
* **Conclusion**:  
  This script automates the calculation of urine output and associated rates for ICU patients, facilitating clinical assessments of kidney function and hydration status.