1. Weather Observation Station 19

Question:

Consider $P_1(a, c)$ and $P_2(b, d)$ to be two points on a 2D plane where (a, b) are the respective minimum and maximum values of Northern Latitude (LAT_N) and (c, d) are the respective minimum and maximum values of Western Longitude (LONG_W) in **STATION**.

Query the Euclidean Distance between points P_1 and P_2 and format your answer to display 4 decimal digits.

Input Format

The **STATION** table is described as follows:

STATION

Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude.

Answer:

```
SELECT ROUND(SQRT(POW((MAX(LAT_N) – MIN(LAT_N)), 2) + POW((MAX(LONG_W) – MIN(LONG_W)), 2)),  4)
FROM STATION;
```

2. Weather Observation Station 20

Question:

A median is defined as a number separating the higher half of a data set from the lower half. Query the median of the Northern Latitudes (LAT_N) from **STATION** and round your answer to 4 decimal places.

Input Format

The **STATION** table is described as follows:

STATION

Field	Type
ID	NUMBER
CITY	VARCHAR2(21)
STATE	VARCHAR2(2)
LAT_N	NUMBER
LONG_W	NUMBER

where LAT_N is the northern latitude and LONG_W is the western longitude.

Answer:

```
SELECT ROUND(AVG(LAT_N), 4) AS median
FROM (
   SELECT LAT_N, ROW_NUMBER() OVER (ORDER BY LAT_N) AS row_num,
        COUNT(*) OVER () AS total_rows
   FROM STATION
) AS subquery
WHERE row_num IN ((total_rows + 1) / 2, (total_rows + 2) / 2);
```