```
21
      -- ROW NUMBER(), RANK(), and DENSE RANK()
22
23 •
      SELECT emp_name, salary,
      ROW_NUMBER() OVER (ORDER BY salary DESC ) AS ROW_NUM,
24
      RANK() OVER(ORDER BY salary DESC) AS RNK,
25
26
      DENSE_RANK() OVER(ORDER BY salary DESC) AS DENSE RNK
      FROM employees;
27
28
29
30
```

Result Grid							‡A	
	emp_name	salary	ROW_NUM	RNK	DENSE_RNK			
•	Deepak	95000	1	1	1			
	Bhavna	85000	2	2	2			
	Ekta	80000	3	3	3			
	Ankit	70000	4	4	4			
	Chetan	60000	5	5	5			

```
20 • select * from employees;
21
      -- ROW NUMBER(), RANK(), and DENSE RANK()
22
23 •
      SELECT emp name, salary,
      ROW_NUMBER() OVER (ORDER BY salary DESC ) AS ROW NUM,
24
      RANK() OVER(ORDER BY salary DESC) AS RNK,
25
      DENSE_RANK() OVER(ORDER BY salary DESC) AS DENSE RNK
26
      FROM employees;
27
28
```

emp name salary ROW NUM RNK DENSE RNK

	emp_name	salary	ROW_NUM	RNK	DENSE_RNK
>	Deepak	95000	1	1	1
	Bhavna	85000	2	2	2
	Ekta	80000	3	3	3
	Ankit	70000	4	4	4
	Chetan	60000	5	5	5

29

```
SELECT * FROM products_with_duplicates;
49 •
50
51 •
      SELECT
        product_name,
52
        price,
53
        ROW_NUMBER() OVER (ORDER BY price DESC) AS row_num,
54
        RANK() OVER (ORDER BY price DESC) AS rank num,
55
        DENSE_RANK() OVER (ORDER BY price DESC) AS dense_rank_num
56
      FROM products_with_duplicates;
57
                                Export: Wrap Cell Content: $\overline{TA}$
```

	product_name	price	row_num	rank_num	dense_rank_num
)	Smart Watch	5000	1	1	1
	Smart Watch	5000	2	1	1
	Bluetooth Speaker	3000	3	3	2
	Wireless Earbuds	3000	4	3	2
	Bluetooth Speaker	3000	5	3	2
	Wireless Earbuds	3000	6	3	2
	Power Bank	2000	7	7	3
	Fitness Band	2000	8	7	3
	Power Bank	2000	9	7	3
	Fitness Band	2000	10	7	3
	Tablet Case	1500	11	11	4

```
41 • SELECT * FROM sales;
42
43
44 -- Running Total:
45 • SELECT sale_date, amount,
46

⇒ SUM(amount) OVER(
      ORDER BY sale date
47
     ROWS BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW) AS RUNNING_TOTAL
48
      FROM sales;
49
50
```

Export: Wrap Cell Content: 1A

Re	sult Grid	Filter	r Rows:	
	sale_date	amount	RUNNING_TOTAL	
•	2024-01-01	100	100	
	2024-01-02	150	250	
	2024-01-03	120	370	
	2024-01-04	200	570	
	2024-01-05	130	700	

```
-- Moving Average (1 before, current, 1 after):
67
68 •
      SELECT
         sale date,
69
70
         amount,
71
        AVG(amount) OVER (
72
            ORDER BY sale date
73
            ROWS BETWEEN 1 PRECEDING AND 1 FOLLOWING
74
          ) AS moving avg
       FROM sales;
75
Export: Wrap Cell Content: IA
  sale_date
           amount
                  moving avg
  2024-01-01
                  125,0000
           100
  2024-01-02
           150
                  123,3333
  2024-01-03
           120
                  156,6667
  2024-01-04
           200
                  150,0000
  2024-01-05
           130
                  165,0000
```