

DATABASE SYSTEMS COURSE 2021/2022

SESSION 7

SESSION 7

- DATA AGGREGATION

AGGREGATION Functions Syntax

MySQL/Oracle

```
SELECT      SUM(Field1) ,  
              AVG(Field1) ,  
              COUNT(Field1) ,  
              MAX(Field1) ,  
              MIN(Field1) ,  
              STDDEV(Field1)  
  
FROM table  
WHERE Field2 = Value2
```

AGGREGATION Functions Example

MySQL/Oracle

```
SELECT      SUM(metrics_sales) ,  
              AVG (metrics_sales) ,  
              COUNT (metrics_sales) ,  
              MAX (metrics_sales) ,  
              MIN (metrics_sales) ,  
              STDDEV (metrics_sales)  
FROM videogame  
WHERE release_year = 2005;
```

	↕ SUM(M...	↕ AVG(M...	↕ COUNT...	↕ MAX(M...	↕ MIN(M...	↕ STDDEV(...
1	75.69	0.564...	134	9.99	0.01	1.33193...

GROUP BY Syntax

MySQL/Oracle

```
SELECT    Field3,  
           SUM(Field1) ,  
           AVG(Field1)  
FROM table  
WHERE Field2 = Value2  
GROUP BY Field3
```

GROUP BY Example

MySQL/Oracle

```
SELECT release_year,  
COUNT(1),COUNT(metrics_sales),SUM(metrics_sales)  
FROM videogame  
WHERE metadata_publishers='Nintendo'  
GROUP BY release_year;
```

	↕ RELEASE_YEAR	↕ COUNT(1)	↕ COUNT(METRICS_SALES)	↕ SUM(METRICS_SALES)
1	2007	26	26	42.04
2	2006	24	24	51.76
3	2004	4	4	5.57
4	2008	12	12	28.31
5	2005	19	19	38.18

HAVING Syntax

MySQL/Oracle

```
SELECT    Field3,  
           AVG (Field1) ,  
           SUM (Field1) ,  
           ...  
FROM table  
WHERE Field2 = Value2  
GROUP BY Field3  
HAVING SUM (Field1) > Value1 AND ... OR ...
```

HAVING Example

MySQL/Oracle

```
SELECT release_year,  
COUNT(metrics_sales), SUM(metrics_sales)  
FROM videogame  
WHERE metadata_publishers='Nintendo'  
GROUP BY release_year  
HAVING SUM(metrics_sales) > 40;
```

	RELEASE_YEAR	COUNT(METRICS_SALES)	SUM(METRICS_SALES)
1	2007	26	42.04
2	2006	24	51.76