

Praktikum 5 – Datenbanken 2 (Vorbereitung)

1 . Ausgabe aller Spieler (Spielername), die in einem bestimmten Zeitraum gespielt hatten.

[EL Fine]: sql: Connection(1839337592)--SELECT t0.Player_ID, t0.Name FROM GAMEINFO t1 LEFT OUTER JOIN Player t0 ON (t0.Player_ID = t1.PLAYERS_Player_ID) WHERE (t1.TIME_START BETWEEN TIMESTAMP '2019-01-11 00:00:00.0' AND TIMESTAMP '2019-01-12 00:00:00.0')

bind => [2019-01-11 00:00:00.0, 2019-01-12 00:00:00.0]

Worksheet Query Builder

```
SELECT t0.Player_ID, t0.Name FROM GAMEINFO t1 LEFT OUTER JOIN Player t0 ON (t0.Player_ID = t1.PLAYERS_Player_ID)
WHERE (t1.TIME_START BETWEEN TIMESTAMP '2019-01-11 00:00:00.0' AND TIMESTAMP '2019-01-12 00:00:00.0')
```

Query Result x Explain Plan x

SQL 0 seconds

OPERATION	OBJECT_NAME	OPTIONS	CARDINALITY	COST
SELECT STATEMENT				1676
NESTED LOOPS		OUTER		1676
TABLE ACCESS	GAMEINFO	FULL		1675
Filter Predicates				
AND				
T1.TIME_START >= TIMESTAMP '2019-01-11 00:00:00.000000000'				
T1.TIME_START <= TIMESTAMP '2019-01-12 00:00:00.000000000'				
TABLE ACCESS	PLAYER	BY INDEX ROWID		1
INDEX	SYS_C009246	UNIQUE SCAN		0
Access Predicates				
T0.PLAYER_ID(+) = T1.PLAYERS_PLAYER_ID				
Other XML				
{info}				
info type="db_version"				
11.2.0.2				
info type="parse_schema"				
"SYSTEM"				
info type="dynamic_sampling"				
2				
info type="plan_hash"				
3053207631				
info type="plan_hash_2"				

2. Ausgabe zu einem bestimmten Spieler: Alle Spiele (Id, Datum), sowie die Anzahl der korrekten Antworten pro Spiel mit Angabe der Gesamtanzahl der Fragen pro Spiel bzw. alternativ den Prozentsatz der korrekt beantworteten Fragen

[EL Fine]: sql: Connection(1839337592)--SELECT t0.GAME_ID, t0.Question_AMOUNT, t0.SCORE, t0.TIME_END, t0.TIME_START, t0.PLAYERS_Player_ID, t1.Player_ID, t1.Name FROM GAMEINFO t0, Player t1 WHERE ((t1.Name = ?) AND (t1.Player_ID = t0.PLAYERS_Player_ID))

Worksheet Query Builder

```
SELECT t0.GAME_ID, t0.Question_AMOUNT, t0.SCORE, t0.TIME_END, t0.TIME_START, t0.PLAYERS_Player_ID, t1.Player_ID, t1.Name FROM GAMEINFO t0, Player t1
WHERE ((t1.Name = 'Spieler1') AND (t1.Player_ID = t0.PLAYERS_Player_ID))
```

Query Result x Explain Plan x

SQL | 0.039 seconds

OPERATION	OBJECT_NAME	OPTIONS	CARDINALITY	COST
SELECT STATEMENT				18144 1762
HASH JOIN				18144 1762
Access Predicates				
T1.PLAYER_ID=T0.PLAYERS_PLAYER_ID				
TABLE ACCESS	PLAYER	FULL	3	10
Filter Predicates				
T1.NAME='Spieler1'				
TABLE ACCESS	GAMEINFO	FULL	7844217	1730

Other XML

```
{info}
  info type="db_version"
    11.2.0.2
  info type="parse_schema"
    "SYSTEM"
  info type="dynamic_sampling"
    2
  info type="plan_hash"
    2494733909
  info type="plan_hash_2"
    3067557072
```

3. Ausgabe aller Spieler mit Anzahl der gespielten Spiele, nach Anzahl absteigend geordnet.

[EL Fine]: sql: Connection(1839337592)--SELECT t0.Name, COUNT(t1.GAME_ID) FROM Player t0, GAMEINFO t2, GAMEINFO t1 WHERE ((t1.PLAYERS_Player_ID = t0.Player_ID) AND (t2.PLAYERS_Player_ID = t0.Player_ID)) GROUP BY t0.Name ORDER BY COUNT(t2.GAME_ID) DESC

Worksheet Query Builder

```
SELECT t0.Name, COUNT(t1.GAME_ID) FROM Player t0, GAMEINFO t2, GAMEINFO t1 WHERE ((t1.PLAYERS_Player_ID = t0.Player_ID)
AND (t2.PLAYERS_Player_ID = t0.Player_ID)) GROUP BY t0.Name ORDER BY COUNT(t2.GAME_ID) DESC
```

Query Result x Explain Plan x

SQL 0.067 seconds

OPERATION	OBJECT_NAME	OPTIONS	CARDINALITY	COST
SELECT STATEMENT				
HASH			6088634927	596591
ORDER BY			6088634927	596591
GROUP BY			6088634927	596591
HASH JOIN			6088634927	101021
Access Predicates				
T1.PLAYERS_Player_ID=T0.PLAYER_ID				
TABLE ACCESS	GAMEINFO	FULL	7844217	1730
HASH JOIN			7844217	11128
Access Predicates				
T2.PLAYERS_Player_ID=T0.PLAYER_ID				
TABLE ACCESS	PLAYER	FULL	10106	10
TABLE ACCESS	GAMEINFO	FULL	7844217	1730

Other XML

```
{info}
  info type="db_version"
  11.2.0.2
  info type="parse_schema"
  "SYSTEM"
  info type="dynamic_sampling"
  2
  info type="plan_hash"
  856321499
```

4. Ausgabe der am meisten gefragten Kategorie, oder alternativ, die Beliebtheit der Kategorien nach Anzahl der Auswahl absteigend sortiert.

[EL Fine]: sql: Connection(1839337592)--SELECT t0.Category_Name, COUNT(t1.GAME_ID) FROM GAMEINFO_CATEGORY t4, GAMEINFO_CATEGORY t3, GAMEINFO t2, GAMEINFO t1, CATEGORY t0 WHERE (((t3.categories_ID = t0.ID) AND (t1.GAME_ID = t3.gameInfo_GAME_ID)) AND ((t4.categories_ID = t0.ID) AND (t2.GAME_ID = t4.gameInfo_GAME_ID))) GROUP BY t0.Category_Name ORDER BY COUNT(t2.GAME_ID) DESC

<pre>SELECT t0.Category_Name, COUNT(t1.GAME_ID) FROM GAMEINFO_CATEGORY t4, GAMEINFO_CATEGORY t3, GAMEINFO t2, GAMEINFO t1, CATEGORY t0 WHERE (((t3.categories_ID = t0.ID) AND (t1.GAME_ID = t3.gameInfo_GAME_ID)) AND ((t4.categories_ID = t0.ID) AND (t2.GAME_ID = t4.gameInfo_GAME_ID))) GROUP BY t0.Category_Name ORDER BY COUNT(t2.GAME_ID) DESC</pre>					
Query Result x Explain Plan x					
SQL 0.786 seconds					
OPERATION	OBJECT_NAME	OPTIONS	CARDINALITY	COST	
SELECT STATEMENT				4257786414702	459271966
SORT		ORDER BY		4257786414702	459271966
HASH		GROUP BY		4257786414702	459271966
HASH JOIN				4257786414702	11968222
Access Predicates					
T3.CATEGORIES_ID=T0.ID					
TABLE ACCESS	GAMEINFO_CATEGORY	FULL		14735912	1034
HASH JOIN				14735912	1078
Access Predicates					
T4.CATEGORIES_ID=T0.ID					
TABLE ACCESS	CATEGORY	FULL		51	2
TABLE ACCESS	GAMEINFO_CATEGORY	FULL		14735912	1034
Other XML					
{info}					
info type="db_version"					
11.2.0.2					
info type="parse_schema"					
"SYSTEM"					
info type="dynamic_sampling"					
2					
info type="plan_hash"					
3740671494					
info type="plan_hash_2"					