DATA BASE PROJECT

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Data Base Project Content

1) Requirement Analysis Document(RAD).....3-5
2) Tables.....6-6
3) ENTT Relationship Diagram.....7-7
4) Data Dictionary.....8-9
5) Anormalization.....10-10
6) Sql Questions.....11-16
7) Views, sequências, Sinónimos.....17-18
8) Privilégios, Roles e Users.....19-20
9) Procedimentos, Functions, Triggers.....21-24
10) Test Prossedure.....25-25

Requirement Analysis Document(RAD)

Purpose and Scope

*Purpose

Our project purpose is giving video games' news to wondering users.But the news is has to be very understandable.For example there will not be boring words in the news.İt has to be clean and funny words.First of all the users will see the news summary.Than if they want they can see the all news detail.We also give the users score point they can earn it by login their accounts but this is daily thing they can't get score point many times in a day.They can use their score point to take some game codes or they can join some draws.

*Scope

Each user who enters the site receives a daily score point and presents the gift to the user if the total score of the user is sufficient for the desired gift but score point can not be sold with money. The main task of the project is to provide the user with the most entertaining game news.

Goals and Success Criteria

- The main purpose of my project is to update the user in an amusing way in game news.

- Score points system for users to choose gifts.

- Various and funny points earning options , various and funny gifts

-The users time which spent on the web site ,user's knowledge of the game word etc… this things give the users exp and give them a level

- The level system increases the user's reputation and the score points required to receive a gift.

- The site is always up to date.

- Point system that encourages users to become members and enter the site every day

- Current and accurate source of video game news.

- A level system that encourages users to develop themselves knowledge in the game world

Overview

It is an internet news site that provides users with the most up-to-date and fun way of presenting news of all current and upcoming video games.

Functional Requirements

- Data entry will be done with keyboard and mouse.

- Users can be login the website which have got an account and users can be sign up which haven't got an accont

-The score point and the gift system is has to be easy visible because this systems mission is encourage users to sign up and spending time on the web site.

Non-Functional Requirements

* Availability

- Site maintenance and updates should be done in the time zone where users are at least on the site

- The most useful menu designs should be done (like drop-down menus)

- It should have shortcuts and quick access (keyboard shortcuts and popup menus)

- Standards must be complied with in the menus and shortcuts.For example, the help menu is at the end, the program exit is the end of the main menu.

- Buttons should be placed at appropriate points. For example, the close button is in the bottom right corner.

- The appearance of the web site should be simple and easily understandable.

- Placement, fonts, color settings, etc. It should be done with care.

* The Reliability

- Data loss should be reduced to zero if it is possible.

-The web site has to show updated news to users all the time.

- Incorrect data entry should be prevented with database constraints

- The software should be cleanse from logic errors and the software should avoid non-deterministic (unexpected) movements.

- Error trapping procedures should be run and appropriate error messages should be presented instead of interruption of the software.

*Performance

- It must be specified how many users the system can work with at the same time.

- The density on the site should not affect the performance of the site

- It should also specify the hardware on which the website will perform best.

*Supportability

- The mobile version as well as the computer version of the site should be prepared without error.

- It should work correctly and without errors on all platforms used today.

*Interface

- The background of the website will be simple and it will be a picture that the players will enjoy.

- For reach the old news there will be a searching bar

- At the same time, there must be at most 1 moving object on the site.

- The site interface should not be mixed and image pollution.

- Advertisements on the site should not be placed in places that will confuse the user's head.

*Privacy Requirement

- News writers will have the authority to ban users and delete their comments. At the same time, it has the authority that normal users have.

- Normal users will only have authority to look at the news, choose the gift with the points earned, comment, manage their own library.

Tables

News Table

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	NEWS_ID	NUMBER(38,0)	No	(null)	1	(null)
2	TITLE	VARCHAR2(32 BYTE)	Yes	(null)	2	(null)
3	CONTENT	VARCHAR2(256 BYTE)	Yes	(null)	3	(null)
4	NEWDATE	DATE	Yes	(null)	4	(null)
5	GAME_NAME	VARCHAR2(32 BYTE)	Yes	(null)	5	(null)
6	USERS_USER_ID	NUMBER(38,0)	No	(null)	6	(null)
7	GAMES_GAME_ID	NUMBER(38,0)	No	(null)	7	(null)

User Table

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	USER_ID	NUMBER(38,0)	No	(null)	1	(null)
2	USER_NAME	VARCHAR2(32 BYTE)	Yes	(null)	2	(null)
3	EMAIL	VARCHAR2(64 BYTE)	Yes	(null)	3	(null)
4	PASSWORD	VARCHAR2(32 BYTE)	Yes	(null)	4	(null)
5	SCORE_POINT_WALLET	NUMBER(38,0)	Yes	(null)	5	(null)
6	AUTHORITY	NUMBER(38,0)	Yes	(null)	6	(null)
7	USER_LEVEL	NUMBER	Yes	(null)	7	(null)

Activity Table

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	ACT_ID	NUMBER(38,0)	No	(null)	1	(null)
2	SCORE_POINT_EARNING	NUMBER(38,0)	Yes	(null)	2	(null)
3	USERS_USER_ID	NUMBER(38,0)	Yes	(null)	3	(null)

Like Table

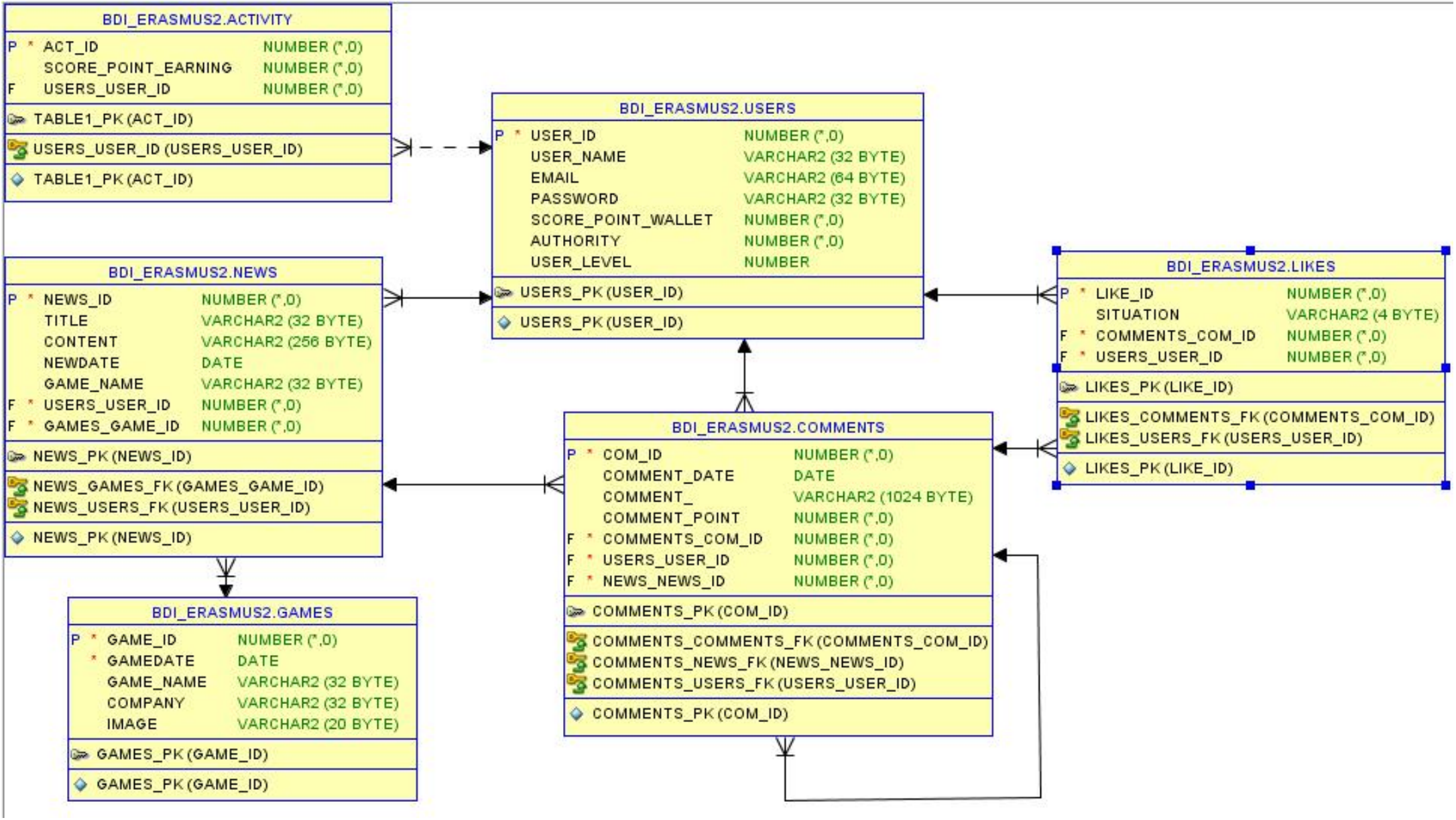
	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	LIKE_ID	NUMBER(38,0)	No	(null)	1	(null)
2	SITUATION	VARCHAR2(4 BYTE)	Yes	(null)	2	(null)
3	COMMENTS_COM_ID	NUMBER(38,0)	No	(null)	3	(null)
4	USERS_USER_ID	NUMBER(38,0)	No	(null)	4	(null)

Game Table

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	GAME_ID	NUMBER(38,0)	No	(null)	1	(null)
2	GAMEDATE	DATE	No	(null)	2	(null)
3	GAME_NAME	VARCHAR2(32 BYTE)	Yes	(null)	3	(null)
4	COMPANY	VARCHAR2(32 BYTE)	Yes	(null)	4	(null)
5	IMAGE	VARCHAR2(20 BYTE)	Yes	(null)	5	(null)

Comment Table

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	COM_ID	NUMBER(38,0)	No	(null)	1	(null)
2	COMMENT_DATE	DATE	Yes	(null)	2	(null)
3	COMMENT_	VARCHAR2(1024 BYTE)	Yes	(null)	3	(null)
4	COMMENT_POINT	NUMBER(38,0)	Yes	(null)	4	(null)
5	COMMENTS_COM_ID	NUMBER(38,0)	No	(null)	5	(null)
6	USERS_USER_ID	NUMBER(38,0)	No	(null)	6	(null)
7	NEWS_NEWS_ID	NUMBER(38,0)	No	(null)	7	(null)


BDI_ERASMUS2.ACTIVITY
P * ACT_ID NUMBER (*,0)
SCORE_POINT_EARNING NUMBER (*,0)
F USERS_USER_ID NUMBER (*,0)
TABLE1_PK (ACT_ID)
USERS_USER_ID (USERS_USER_ID)
TABLE1_PK (ACT_ID)
BDI_ERASMUS2.USERS
P * USER_ID NUMBER (*,0)
USER_NAME VARCHAR2 (32 BYTE)
EMAIL VARCHAR2 (64 BYTE)
PASSWORD VARCHAR2 (32 BYTE)
SCORE_POINT_WALLET NUMBER (*,0)
AUTHORITY NUMBER (*,0)
USER_LEVEL NUMBER
USERS_PK (USER_ID)
USERS_PK (USER_ID)
BDI_ERASMUS2.NEWS
P * NEWS_ID NUMBER (*,0)
TITLE VARCHAR2 (32 BYTE)
CONTENT VARCHAR2 (256 BYTE)
NEWDATE DATE
GAME_NAME VARCHAR2 (32 BYTE)
F * USERS_USER_ID NUMBER (*,0)
F * GAMES_GAME_ID NUMBER (*,0)
NEWS_PK (NEWS_ID)
NEWS_GAMES_FK (GAMES_GAME_ID)
NEWS_USERS_FK (USERS_USER_ID)
NEWS_PK (NEWS_ID)
BDI_ERASMUS2.LIKES
P * LIKE_ID NUMBER (*,0)
SITUATION VARCHAR2 (4 BYTE)
F * COMMENTS_COM_ID NUMBER (*,0)
F * USERS_USER_ID NUMBER (*,0)
LIKES_PK (LIKE_ID)
LIKES_COMMENTS_FK (COMMENTS_COM_ID)
LIKES_USERS_FK (USERS_USER_ID)
LIKES_PK (LIKE_ID)
BDI_ERASMUS2.COMMENTS
P * COM_ID NUMBER (*,0)
COMMENT_DATE DATE
COMMENT_ VARCHAR2 (1024 BYTE)
COMMENT_POINT NUMBER (*,0)
F * COMMENTS_COM_ID NUMBER (*,0)
F * USERS_USER_ID NUMBER (*,0)
F * NEWS_NEWS_ID NUMBER (*,0)
COMMENTS_PK (COM_ID)
COMMENTS_COMMENTS_FK (COMMENTS_COM_ID)
COMMENTS_NEWS_FK (NEWS_NEWS_ID)
COMMENTS_USERS_FK (USERS_USER_ID)
COMMENTS_PK (COM_ID)
BDI_ERASMUS2.GAMES
P * GAME_ID NUMBER (*,0)
* GAMEDATE DATE
GAME_NAME VARCHAR2 (32 BYTE)
COMPANY VARCHAR2 (32 BYTE)
IMAGE VARCHAR2 (20 BYTE)
GAMES_PK (GAME_ID)
GAMES_PK (GAME_ID)

DATA DİCTİONARY

NEWS

Name	Data Type	Key	Field Size	Restrictions	Required	Unique	Description
NewsID	İnteger	Primary Key	8		X	X	The ID of news
UserID	İnteger	Foreign Key	8		X	X	The ID of users
GameID	İnteger	Foreign Key	8		X	X	The ID of games
Tıtle	Varchar		32		X		Tıtle of the news
Content	Varchar		256				The content of news
Date	FLoating Point		4				The date of news
Game_ Name	Varchar		32		X		Name of Games

USERS

Name	Data Type	Key	Field Size	Restrictions	Required	Unique	Description
UserID	İnteger	Primary Key	8		X	X	The ID of users
Email	Varchar		64		X		Email of users
User name	Varchar		32		X		The name of users
Password	Varchar		32		X		Password of users
Score Point Wallet	İnteger		8		X		The wallet of users that gains
Authority	İnteger		8		X		The authority of users
User_Level	İnteger		32		X		Level of users

Activity

Name	Data Type	Key	Field Size	Restrictions	Required	Unique	Description
ActivityID	İnteger	Primary Key	8		X	X	The ID of Activity
UserID	İnteger	Foreign Key	8		X	X	The ID of users
Score PointEarnings	İnteger		8		X		The scors that users gain

GAMES

Name	Data Type	Key	Field Size	Restrictions	Required	Unique	Description
GameID	İnteger	Primary Key	4		X	X	The ID of game
Image	İmage		256				The front image of games
Date	Floating Point		4				The date of relaising
Game Name	Varchar		32		X		The name of games
Company	Varchar		32				The name of Game's company

LİKES

Name	Data Type	Key	Field Size	Restrictions	Required	Unique	Description
LikeID	İnteger	Primary Key	8		X	X	The ID of likes
NewsID	İnteger	Foreign Key	8		X	X	The ID of news
UserID	İnteger	Foreign Key	8		X	X	The ID of users
CommentID	İnteger	Foreign Key	64		X		The ID of comments
Situation	Varchar		4				The situation of like(like or dislike)

COMMENTS

Name	Data Type	Key	Field Size	Restrictions	Required	Unique	Description
CommentID	İnteger	Primary Key	64		X	X	The ID of comments
UserID	İnteger	Foreign Key	8		X	X	The ID of Users
NewsID	İnteger	Foreign Key	8		X	X	The ID of News
Comment Date	Floating Point		4				The date of comments
Comment Point	İnteger		4				The point of comments
Comment_	Varchar		1024		X		Comments of users

Denormalization Problems

1)First Denormalization (news/game name)

Update: If we want to change news' game name we have to add new game name on game table or use a game name which on the game table and has no news.

Delete: If we want to delete a news it hasn't got an any problem

Insert: When we want to add a news on website first we have to go to the game table and we have to add a game name which has no news. Because news' game name can not be null.

2)Second Denormalization(activity earning/users wallet)

Update: When we want to increase users earning point.We need to look at their level because every level has an earning point (per day).Then we increase that user earning point.

Delete: When users want to use their "users wallet point" we have to delete their point which they spent.This has no problem

Insert: When a user enter his/her account first time of the day we look at the his/her activity earning point and then we look at his/her users wallet point.Then we gather activity earning point and users wallet point.The result is giving us the last user wallet point.

1)Insert Queries

- INSERT INTO comments (COM_ID, COMMENT_DATE, COMMENT_, COMMENT_POINT, COMMENTS_COM_ID, USERS_USER_ID, NEWS_NEWS_ID) VALUES(1, SYSDATE, 'comment', 0, 1, 100, (SELECT NEWS_ID FROM NEWS WHERE (USERS_USER_ID) = 100));
- INSERT INTO activity (ACT_ID, SCORE_POINT_EARNING, USERS_USER_ID) VALUES (1,5, 100);
- INSERT INTO activity (ACT_ID, SCORE_POINT_EARNING, USERS_USER_ID) VALUES (2,5, 101);
- INSERT INTO activity (ACT_ID, SCORE_POINT_EARNING, USERS_USER_ID) VALUES (3,5, 102);
- INSERT INTO activity (ACT_ID, SCORE_POINT_EARNING, USERS_USER_ID) VALUES (4,5, 103);
- INSERT INTO likes (LIKE_ID, SITUATION, COMMENTS_COM_ID, USERS_USER_ID) VALUES (1, 1 , 1, 101);
- INSERT INTO likes (LIKE_ID, SITUATION, COMMENTS_COM_ID, USERS_USER_ID) VALUES (2, 0 , 2, 100);
- INSERT INTO comments (COM_ID, COMMENT_DATE, COMMENT_, COMMENT_POINT, COMMENTS_COM_ID, USERS_USER_ID, NEWS_NEWS_ID) VALUES(2, SYSDATE, 'comment', 0, 2, 101, (SELECT NEWS_ID FROM NEWS WHERE (USERS_USER_ID) = 101));
- INSERT INTO comments (COM_ID, COMMENT_DATE, COMMENT_, COMMENT_POINT, COMMENTS_COM_ID, USERS_USER_ID, NEWS_NEWS_ID) VALUES(2, SYSDATE, 'comment', 0, 2, 101, (SELECT NEWS_ID FROM NEWS WHERE (USERS_USER_ID) = 101));
- INSERT INTO LIKES (LIKE_ID, SITUATION, COMMENTS_COM_ID, USERS_USER_ID) VALUES(10, 2, 1, 101);

2)Update Queries

- UPDATE LIKES SET SITUATION = 1 WHERE SITUATION = 0 AND LIKE_ID > 5;

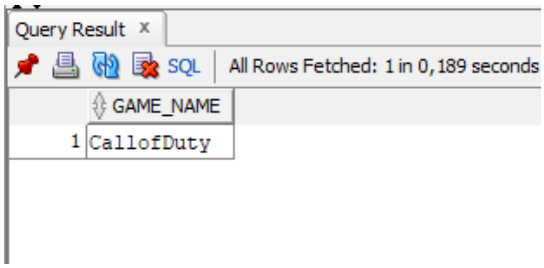
3)Delete Queries

- DELETE FROM LIKES WHERE SITUATION = 2;

4)Select Queries

1)Send the query that SELECTS The Game Name which has a news and that news has a comment which comment_id is “1”.

SELECT GAME_NAME FROM NEWS WHERE NEWS_ID = (SELECT NEWS_NEWS_ID FROM COMMENTS WHERE COM_ID = 1);



2) Send the query that SELECTS The Game Name which has a news and that news has a comment which comment_id is “2”.

SELECT GAME_NAME FROM NEWS WHERE NEWS_ID = (SELECT NEWS_NEWS_ID FROM COMMENTS WHERE COM_ID = 2);

Query Result

SQL | All Rows Fetched: 1 in 0,082 seconds

	GAME_NAME
1	COD: Global Offensive

3)Find game names which words start with “th”.

```
SELECT GAME_NAME FROM GAMES WHERE GAME_NAME LIKE 'Th%';
```

Query Result

SQL | All Rows Fetched: 1 in 0,177 seconds

	GAME_NAME
1	TheSims4

4)Find game names which words don’t start with “th”.

```
SELECT GAME_NAME FROM GAMES WHERE GAME_NAME NOT LIKE 'Th%';
```

Query Result

SQL | All Rows Fetched: 6 in 0,068 seconds

	GAME_NAME
1	CallofDuty
2	COD: Global Offensive
3	Assasins Creed Brotherhood
4	COD: Global Offensive
5	Skyrim
6	NeedForSpeed2-Underground

5)Order the tables by opposite User_ID

```
SELECT * FROM USERS ORDER BY USER_ID DESC;
```

Query Result

SQL | All Rows Fetched: 4 in 0,265 seconds

	USER_ID	USER_NAME	EMAIL	PASSWORD	SCORE_POINT_WALLET	AUTHORITY	USER_LEVEL
1	103	Banu Çolak	bnuclk@gmail.com	bonou2	200	0	2
2	102	Kerem Tatlici	kerem123@gmail.com	tatlicikerem	200	1	2
3	101	Berkay Uguroglu	berk97_ay@hotmail.com	berkinho	200	1	9
4	100	Niran Ozen	n.ozen1@gmail.com	chr321123	200	1	9

6)Order the tables first by User_Level than order by User_ID

```
SELECT * FROM USERS ORDER BY USER_LEVEL, USER_ID;
```

Query Result

SQL | All Rows Fetched: 4 in 0,148 seconds

	USER_ID	USER_NAME	EMAIL	PASSWORD	SCORE_POINT_WALLET	AUTHORITY	USER_LEVEL
1	102	Kerem Tatlici	kerem123@gmail.com	tatlicikerem	200	1	2
2	103	Banu Çolak	bnuclk@gmail.com	bonou2	200	0	2
3	100	Niran Ozen	n.ozenl@gmail.com	chr321123	200	1	9
4	101	Berkay Uguroglu	berk97_ay@hotmail.com	berkinho	200	1	9

7)Order the tables first by opposite Game_Name than order by Game_ID

```
SELECT * FROM GAMES ORDER BY GAME_NAME DESC, GAME_ID ASC;
```

Query Result

SQL | All Rows Fetched: 7 in 0,106 seconds

	GAME_ID	GAMEDATE	GAME_NAME	COMPANY	IMAGE
1	0	24/11/2017	TheSims4	Maxis	ASDASD
2	4	24/11/2017	Skyrim	Bethesda	(null)
3	3	24/11/2017	NeedForSpeed2-Underground	Activision	ASDASD
4	2	24/11/2017	COD: Global Offensive	Valve	ASDASD
5	5	24/11/2017	COD: Global Offensive	Valve	(null)
6	1	24/11/2017	CallofDuty	Activision	ASDASD
7	6	24/11/2017	Assasins Creed Brotherhood	Valve	(null)

8)Order the tables by Game_ID but separate that images are null and maket he nulls under the tables.

```
UPDATE GAME SET IMAGE =null WHERE GAME_ID > 3;

SELECT * FROM GAMES ORDER BY GAME_ID nulls last;
```

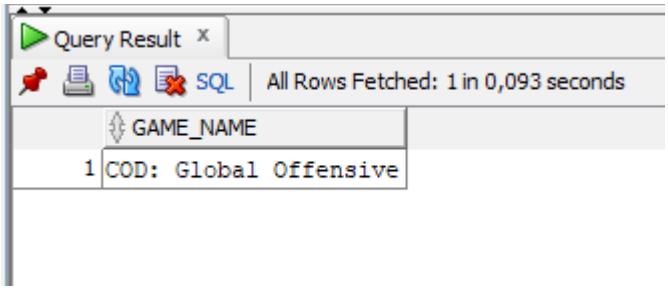
Query Result

SQL | All Rows Fetched: 7 in 0,106 seconds

	GAME_ID	GAMEDATE	GAME_NAME	COMPANY	IMAGE
1	0	24/11/2017	TheSims4	Maxis	ASDASD
2	1	24/11/2017	CallofDuty	Activision	ASDASD
3	2	24/11/2017	COD: Global Offensive	Valve	ASDASD
4	3	24/11/2017	NeedForSpeed2-Underground	Activision	ASDASD
5	4	24/11/2017	Skyrim	Bethesda	(null)
6	5	24/11/2017	COD: Global Offensive	Valve	(null)
7	6	24/11/2017	Assasins Creed Brotherhood	Valve	(null)

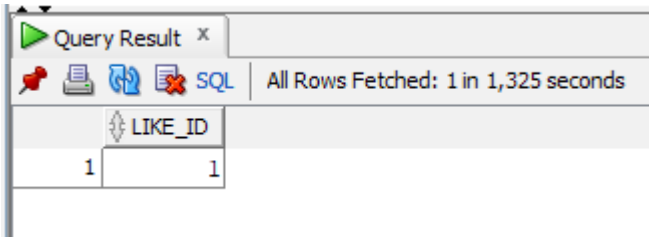
9) Find Game_Name which Game_ID is maxiumum but Game_ID has been looked from news table

```
SELECT GAME_NAME FROM GAMES WHERE GAME_ID = ( SELECT MAX
(GAMES_GAME_ID) FROM NEWS);
```



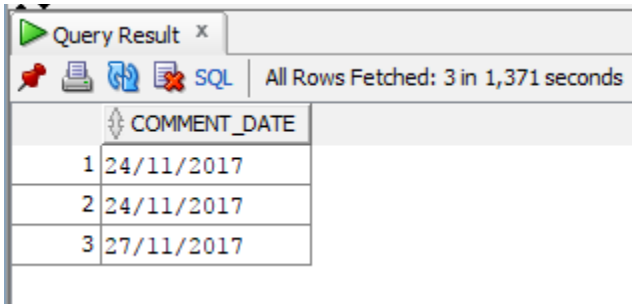
10)Find LIKE_ID which has been liked comment that has minimum comment_id

SELECT LIKE_ID FROM LIKES WHERE COMMENTS_COM_ID=(SELECT MIN(COM_ID) FROM COMMENTS) ;



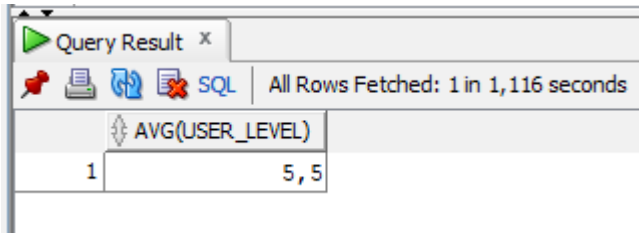
11)Union COMMENT_DATE and NEWDATE and order by COMMENT_DATE

SELECT COMMENT_DATE FROM COMMENTS UNION SELECT NEWDATE FROM NEWS ORDER BY COMMENT_DATE;



12)Getting the average of all users level

SELECT AVG(USER_LEVEL) FROM USERS;



13)Gather the likes

SELECT SUM(SITUATION) FROM LIKES;

Query Result

SQL | All Rows Fetched: 1 in 1,517 seconds

	SUM(SITUATION)
1	1

14)Find users and them information which user_names start with 'B'

SELECT * FROM USERS WHERE USER_NAME LIKE 'B%';

Query Result

SQL | All Rows Fetched: 2 in 1,547 seconds

	USER_ID	USER_NAME	EMAIL	PASSWORD	SCORE_POINT_WALLET	AUTHORITY	USER_LEVEL
1	103	Banu Çolak	bnuclk@gmail.com	bonou2	200	0	2
2	101	Berkay Uguroglu	berk97_ay@hotmail.com	berkinho	200	1	9

15)Show games informations which companys valve or maxis.

SELECT * FROM GAMES WHERE COMPANY IN ('Valve','Maxis');

Query Result

SQL | All Rows Fetched: 4 in 0,57 seconds

	GAME_ID	GAMEDATE	GAME_NAME	COMPANY	IMAGE
1	2	24/11/2017	COD: Global Offensive	Valve	ASDASD
2	6	24/11/2017	Assasins Creed Brotherhood	Valve	(null)
3	5	24/11/2017	COD: Global Offensive	Valve	(null)
4	0	24/11/2017	TheSims4	Maxis	ASDASD

16)Show games informations which companys not valve or maxis.

SELECT * FROM GAMES WHERE COMPANY NOT IN ('Valve','Maxis');

Query Result

SQL | All Rows Fetched: 3 in 1,37 seconds

	GAME_ID	GAMEDATE	GAME_NAME	COMPANY	IMAGE
1	1	24/11/2017	CallofDuty	Activision	ASDASD
2	4	24/11/2017	Skyrim	Bethesda	(null)
3	3	24/11/2017	NeedForSpeed2-Underground	Activision	ASDASD

17)Show users which levels between 1 and 4

SELECT * FROM USERS WHERE USER_LEVEL BETWEEN 1 AND 4;

Query Result

SQL | All Rows Fetched: 2 in 1,56 seconds

	USER_ID	USER_NAME	EMAIL	PASSWORD	SCORE_POINT_WALLET	AUTHORITY	USER_LEVEL
1	103	Banu Çolak	bnuclk@gmail.com	bonou2	200	0	2
2	102	Kerem Tatlici	kerem123@gmail.com	tatlicikerem	200	1	2

18)Show users which levels not between 1 and 4

SELECT * FROM USERS WHERE USER_LEVEL NOT BETWEEN 1 AND 4;

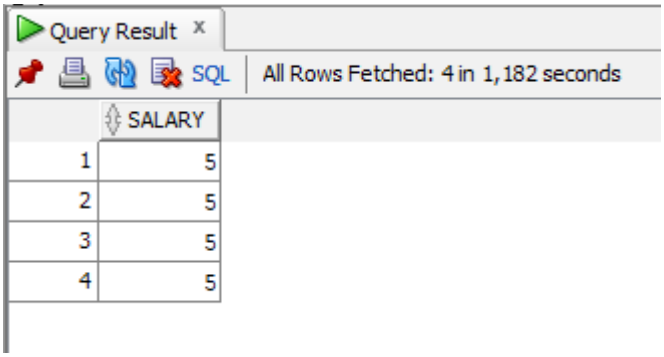
Query Result

All Rows Fetched: 2 in 0,94 seconds

	USER_ID	USER_NAME	EMAIL	PASSWORD	SCORE_POINT_WALLET	AUTHORITY	USER_LEVEL
1	101	Berkay Uguroglu	berk97_ay@hotmail.com	berkinho	200	1	9
2	100	Niran Ozen	n.ozen1@gmail.com	chr321123	200	1	9

19)Change the Score_Point_Earning name as salary and Show it on the table

SELECT SCORE_POINT_EARNING AS SALARY FROM ACTIVITY;



Query Result

All Rows Fetched: 4 in 1,182 seconds

	SALARY
1	5
2	5
3	5
4	5

20)How to create database ?

Create Database TestDB;

21)how to drop database?

Drop Database testDB;

DROP DATABASE *databasename*;

VIEWS

- CREATE VIEW WALLET AS
- SELECT USER_NAME ,SCORE_POINT_WALLET
- FROM USERS
- WHERE SCORE_POINT_WALLET > (SELECT AVG(SCORE_POINT_WALLET) FROM USERS);

- CREATE OR REPLACE VIEW WALLET AS
- SELECT USER_NAME ,SCORE_POINT_WALLET, USER_ID
- FROM USERS;

- CREATE VİEW COM AS
- SELECT GAME_NAME, IMAGE
- FROM GAMES
- WHERE COMPANY ='VALVE';

- DROP VİEW COM;

- CREATE VİEW NEWGAME AS
- SELECT TITLE,NEWDATE,GAME_NAME
- FROM NEWS INNER JOIN GAMES
- ON NEWS.GAME_ID = GAMES.GAME_ID;

SYNONYMS

- CREATE SYNONYM db FOR bdi_erasmus2;
- CREATE PUBLIC SYNONYM CCOM FOR db.COMMENTS;

- SELECT COMMENT_DATE FROM CCOM;

TRANSACTIONS

- INSERT INTO USERS (USER_ID, USER_NAME, E-MAIL, PASSWORD, SCORE_POINT_WALLET, AUTHORITY, USER_LEVEL) VALUES(5, 'Jose Fonseca', 'josefonseca@ipg.pt', 'jsf321123', '0', '1', 5);

```
 SAVEPOINT inserting;
COMMIT;
DELETE FROM USERS WHERE USER_ID = 5;
ROLLBACK WORK TO inserting;
UPDATE USERS SET AUTHORITY = 0 WHERE USER_ID = 5;
SAVEPOINT updating;
UPDATE USERS SET AUTHORITY = 0 WHERE USER_ID = 5;
COMMIT;
```

Sequence

```
CREATE SEQUENCE Users_Seq
  START WITH 1
  INCREMENT BY 1
  MAXVALUE 999999999999999999;

  CREATE SEQUENCE Activity_Seq
  START WITH 1
  INCREMENT BY 1
  MAXVALUE 999999999999999999;
```

System privileges

Privilege	Description
Admin	admin is authorized in everything
Normal User	Normal User can create comment,change own password,like comments, read news
Author	Author can create news,change own password,like comments,create comment, update own news, read news
Guest	Guest can only read news and create an account.With that can be a normal user

Crud Matrix

Nr.	USER ACTİON	CREATE	READ	UPDATE	DELETE
1)	Enter the web site	-----	-----	-----	-----
2)	Leave the web site	-----	-----	-----	-----
3)	Write a comment	Comment_, Comment_Date Comment_Point	-----	-----	-----
4)	Read a comment	-----	Comment_, Comment_Date Comment_Point	-----	-----
5)	Like or dislike a comment	-----	-----	Comment_Point	-----
6)	Change Password	-----	-----	Password	-----

7)	Read news	-----	Title Content NewDate	-----	-----
8)	Create news	Title Content NewDate	-----	-----	-----
9)	Update news	-----	-----	Title Content NewDate	-----
10)	Delete comment	-----	-----	-----	Comment_Date Comment_ Comment_Point
11)	Earn Point	-----	-----	Score_ Point_Earning	-----
12)	Delete Account	-----	-----	-----	User_Name Email Password Score_Point_ Wallet
13)	Spent Point	-----	-----	Score_Point_ Wallet	-----

Procedimentos

```
CREATE SEQUENCE USERS_SEQ INCREMENT BY 1 MAXVALUE 9999 MINVALUE 1 CACHE 20;

CREATE OR REPLACE PROCEDURE pr_UserAdd

(

 p_USER_NAME  IN VARCHAR2,

 p_email     IN VARCHAR2,

 p_PASSWORD  IN VARCHAR2,

 p_SCORE_POINT_WALLET  IN NUMBER,

 p_AUTHORITY  IN NUMBER,

 p_USER_LEVEL IN NUMBER,

 p_Status    OUT NUMBER

)

AS

BEGIN

 INSERT INTO Users(USER_ID, USER_NAME, EMAIL,
PASSWORD,SCORE_POINT_WALLET,AUTHORITY,USER_LEVEL)

        VALUES(Users_Seq.NextVal, p_USER_NAME, p_email, p_PASSWORD,
p_SCORE_POINT_WALLET,p_AUTHORITY, p_USER_LEVEL);

 p_Status := 1;

END pr_UserAdd;

/

********************************************************************************

CREATE SEQUENCE NEWS_SEQ INCREMENT BY 1 MAXVALUE 9999 MINVALUE 1 CACHE 20;


CREATE OR REPLACE PROCEDURE pr_NEWSAdd

(

 p_TITLE  IN VARCHAR2,

 p_CONTENT     IN VARCHAR2,

 p_NEWDATE  IN DATE,

 p_GAME_NAME  IN VARCHAR2,

 p_Status    OUT NUMBER

)

AS
```

```
BEGIN

 INSERT INTO Users(NEWS_ID, TITLE, CONTENT,
NEWDATE,GAME_NAME,USERS_USER_ID,GAMES_GAME_ID)

        VALUES(NEWS_Seq.NextVal, p_TITLE,  p_CONTENT, p_NEWDATE, p_GAME_NAME);

 p_Status := 1;

END pr_NEWSAdd;

/
```

Functions

```
CREATE OR REPLACE FUNCTION checkOldNews (newsID IN NUMBER)

RETURN VARCHAR2 IS

info VARCHAR2(56) := 'An error occured.';

oldDate DATE;

newDat DATE;

BEGIN

   newDat := TRUNC(SYSDATE);

   SELECT TRUNC(NEWDATE) INTO oldDate FROM NEWS WHERE NEWS_ID = newsID;

   IF newDat-10 > oldDate THEN

      info := 'This new has been deleted.';

      RETURN info;

   ELSE

      info := 'This new is not old.';

      RETURN info;

   END IF;

END;

/

SET serveroutput ON;

DECLARE

message VARCHAR2(56);

BEGIN


  message := checkOldNews(1);

  DBMS_OUTPUT.PUT_LINE( message);
```

```
END;
/
********************************************************************************************
CREATE OR REPLACE FUNCTION countlike(cID NUMBER)
RETURN NUMBER IS likeC NUMBER;
begin
    SELECT COUNT(*) INTO likeC FROM LIKES WHERE COMMENTS_COM_ID = cID;
    IF likeC = NULL THEN
    DBMS_OUTPUT.PUT_LINE('There is no like for this comment.');
    ELSE
    DBMS_OUTPUT.PUT_LINE('There are ' || likeC ||' Likes for this comment.');
    END IF;
end;
/
```

Triggers

```
CREATE OR REPLACE TRIGGER checkingEmail
BEFORE INSERT ON USERS
FOR EACH ROW
ENABLE
DECLARE
flag NUMBER, check_mail VARCHAR(32);
BEGIN
    check_mail := :new.EMAIL;
    FOR j IN 1..len(check_mail);
    LOOP
       IF SUBSTR(check_mail, j, 1) IS '@' THEN
          flag := 1;
          EXIT;
       END IF;
    END LOOP;
    IF flag IS 0 THEN
    RAISE_APPLICATION_ERROR(-20041, 'This is not a correct mail adress.');
```

```
END;
*********************************************************************************************
CREATE OR REPLACE TRIGGER checkingUserLevel
BEFORE INSERT ON USERS
FOR EACH ROW
ENABLE
BEGIN
      IF :new.USER_LEVEL > 20 THEN
        RAISE_APPLICATION_ERROR(-20040, 'You can not set users level over 20, it must be less.');
      END IF;
END;
```

Packages

```
CREATE OR REPLACE PACKAGE ADMINN IS
PROCEDURE cursor (P_CHAR varchar2);
END ADMINN;
/
CREATE OR REPLACE PACKAGE BODY ADMINN IS
PROCEDURE cursor (P_CHAR varchar2) IS
CURSOR C_NUM IS
SELECT USER_NAME
FROM USERS
where USER_NAME like '%' ||P_CHAR|| '%'
  order by USER_NAME desc;
BEGIN
FOR V_REG_USER IN C_NUM LOOP
DBMS_OUTPUT.PUT_LINE ('WELICOME  '||V_REG_USER.USER_NAME);
END LOOP;
END cursor;
END ADMINN;
/
set serveroutput on;
exec ADMINN.CURSOR ('A');
```